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Effectiveness of Conventional and Herbal Treatment on Diabetic Foot Ulcer Using Texas and Wagner Wound Scales

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ABSTRACT

In type2 diabetic mellitus(DM) complication can occur in the micro vascular and macro vascular blood vessels. Diabetic foot ulcer is one of the most complicated problem leads to gangrene and can extend to the level of amputation. The aim of this study is to compare the effectiveness of conventional and herbal treatment in diabetic foot ulcer. A total of 160 diabetic patients with foot ulcer were selected randomly and divided into conventional and herbal treatment groups(n=80 each). Wound measurement was done using Texas wound measurement scale and Wagner wound grading scale. In conventional treatment group and in herbal treatment group the stage and grade were assessed in pre-test and post test 1 after 15 days and post test 2 after 30 days. There are significant changes found in wound stage ischemia and infection(D), ischemia(C) infection present (B), and no infection or ischemia (A). The Texas scale stage χ^2analysis showed significant difference.($p<0.023$) This showed that the herbal treatment is better thanconventional treatment. In Texas grading system of the wound there is indication of improvement (marginally significant ($p< 0.09$) in the second visit and there is a highly significant change in the third visit after 30 days of post test. ($p <0.001$) The wagner grading system for diabetic foot infections, grading scale herbal treatment was better than conventional treatment but statistically not significant.(P=0.363)

Keywords: *Diabetic patients, Diabetic foot ulcer, Conventional treatment, Herbal treatment, Diabetic foot ulcer(DFU).*

INTRODUTION

Diabetes Mellitus (DM) has been recognized as a chronic condition that challenges emotional, social, psychological, occupational and spiritual aspects of a person's life.[1]

As time passes, diabetes can damage the heart, blood vessels, eyes, kidneys, and nerves.[2]Adults with diabetes have a 2-3-fold increased risk of heart attacks and strokes. Combined with reduced blood flow, neuropathy (nerve damage) in the foot increases the chance of foot ulcers, infection and eventual need for limb amputation.[3]

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In ancient period the wounds were treated with herbs. People used herbs, trees, plants, roots, leaves, barks located in their environment and the country in which they live.[4] Animal grease, hone lint also were used for topical wounds. In India turmeric, iron, honey, alcohol were used on the topical wound to heal.[5] In the field of siddha, ayurvedha and other field of naturopathy herbal medicines, honey, coconut oil, athimadhuram, aloevera, mulberry extract, bitter melon, cinnamon, fenugreek, ginger, coffee powder, shrubs and vitamins supplements were used.[6]Because of the advancement in research and technology sterilization of articles, antiseptics, antibiotic creams, sterile products used for dressing came to the market.[7]

Currently in the medical industry has its advancement in manufacturing various kinds of antibiotic creams to combat various kinds of gram positive and gram negative organisms, fungal infections.[8] Varities of dressing

materials are used like isotonic sodium chloride gel, hydro active paste, hydrocolloid dressing, autolytic debridement, platelet derived growth factor. Hybrid polymers, grafting, stem cells, cloning the tissue to cover the wound area, hydrotherapy, hyper oxygen therapy, restriction of activity, off-loading the ulcer, revascularization etc were also used in various clinical settings. In the alternate treatment leeches and maggots were also in use to clean up the wounds and removal of slough followed by regular dressing.[9] Along with the wound care the patients with diabetic foot ulcer will also be on regular treatment like injection insulin, oral hypoglycaemic drugs to maintain the glycemic control.[1,3]

Turmeric (curcima longa) has anti-inflammatory and anti-infective effects on wound by reducing the glucose level in the tissues thus enhances the natural micro vascular repair and aids in tissue healing.[10]

Neem leaves (azadirachta indica) posses antiseptic, anti bacterial and anti microbial effects. This helps in controlling of the infections caused by various types of organisms on the diabetic wound and other types of wounds and improves the healing effects of the tissues.[11]

Coconut oil (cocos nucifera) has antibacterial, antiviral, antifungal properties, and it aids in improvement of the nutrition on the wound area and thus help in healing of the wounds and other skin infections.[12]

Need for the study: The advancement in antibiotic creams and the exorbitant cost of dressing materials, and other procedures affect the middle class people and the economically deprived people. The common man cannot afford to meet all these expenses. The patients with diabetic foot ulcer need an alternate solution to meet the financial burden, they go for naturopathy treatment to manage with home remedies or natural herbs oils etc. The present trend is to fall back to the original natural environment provided organic food. This herbal formulation can be a solution for the patients with foot ulcer.[7]

Material Methods

The research approach used in this study was Quantitative approach by using prospective comparative interventional design among type-2 diabetic patients male and female age between 40 and above years with diabetic foot ulcer. After obtaining formal permission from Hospital authorities to conduct the study in the respective departments, the purpose of the study was explained to the patients. Samples were selected by purposive sampling method with sample size of 2 groups namely group 1(n=80) selected for conventional treatment with Betadine Iodine ointment, and group 2 (n=80) selected for herbal treatment with prepared herbal formulation. Informed consent was obtained from each patient who participated in this study. This study was approved by the Institutional "Human Ethics Committee of Saveetha University"(09/02/2014/IEC/SU; Dated 18.12.2015).

Inclusion and exclusion criteria: Diabetic patients, who gave consent for the study, with chronic wounds of more than two weeks duration and the maximum diameter was about 8 cm in size. Patients with diabetic foot ulcer of more than 2 months and patients who were suffering with malignancy and those on chemotherapy and radiation therapy on the wound region, patients with gangrene, TAO were excluded. Dressing is done with conventional (Betadine iodine ointment) or herbal oil, fresh dark green neem (Azadirachta indica) leaves, coconut oil (cocos nucifera) along with turmeric powder (curcuma longa) put to gather and heated until the neem leaves become golden yellow in colour. And it is cooled and strained under the controlled environment and tested in the lab. Data collections were taken inthreevisits, pre-test (visit one) post test after 15 days(visit 2) and post test after 30 days(visit 3). Texas wound classification scales were used to assess the stage and grade and Wagner scale used to assess the gradeof the diabetic foot infections.Patients were asked to continue their routine diabetic treatment and Betadine iodine dressing done for conventional group, herbal formulation dressing was done for herbal treatment group. Privacy and confidentiality was maintained throughout the study period. Data was analyzed by using descriptive and inferential statistics.

RSULTS

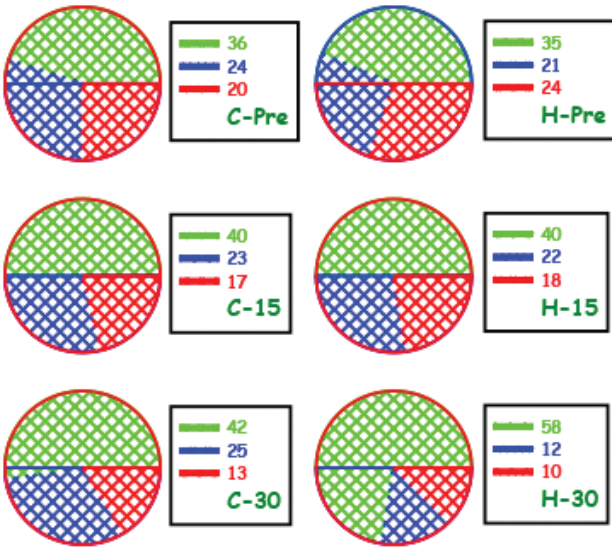

Figure 1.1: Comparison of conventional and herbal wound healing on Texas diabetic wound stage.

[The χ2 and P values for pre-test are 0.578 and 0.749 respectively. The χ2 and P values for 15 days are 0.510 and 0.975 respectively. The χ2 and P values for 30 days are 7.519 and 0.023 respectively.]

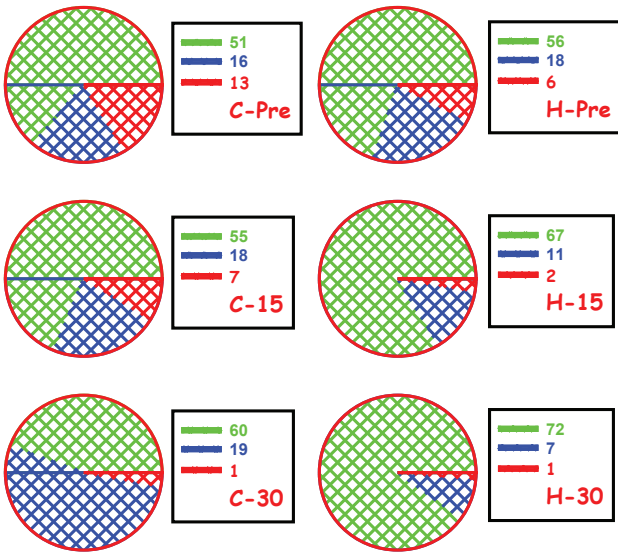

Figure 1.2: Comparison of conventional and herbal wound healing on Texas diabetic wound grade.

[The χ2 and P values for pre-test are 2.930 and 0.231respectively. The χ2 and P values for 15 days are 5.648 and 0.059 respectively. . The χ2 and P values for 30 days are 28.600 and <0.001 respectively.]

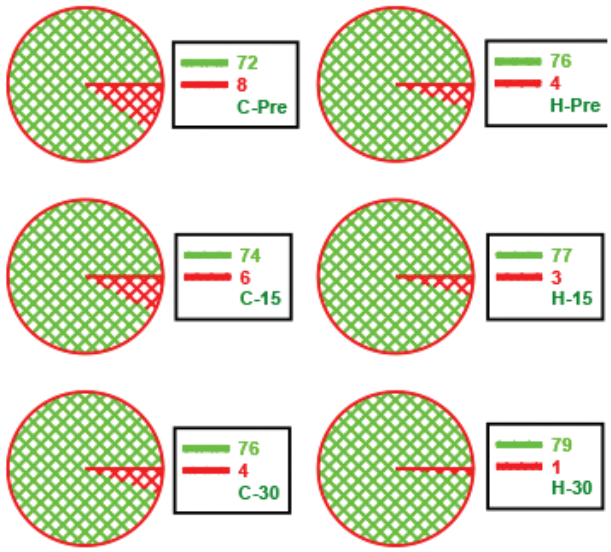

Figure 1.3: Comparison of conventional and herbal wound healing on Wagner grading system for diabetic foot infection grade.

[The χ2 and P values for pre-test are 0.811and 0.368 respectively. The χ2 and P values for 15 days are 0.471 and 0.493 respectively. The χ2 and P values for 30 days are 0.826 and 0.363 respectively.]

DISCUSSION (FINDINGS)

Figure 1:1 shows the comparison of conventional and herbal treatment on diabetic wound ulcer and its classification of wound by using the University of Texas Scale for wound stage. Conventional treatment pre-test showed 45%with no infection, 30% with ischemia and 25% with infection and ischemia. The herbal group showed 44% with no infection 26% with ischemia,30% with infection and ischemia.χ2analysis wasnotsignificant. (P=0.749). Conventional treatment post test1 (15 days) showed50 % no infection, 28.75% ischemia and 21.25 % infection and ischemia. The herbal group showed 50% no infection 27.5% ischemia and 22.5% infection with ischemia. χ2analysis showed no significant difference (P=0.975). Conventional treatment post test 2(30 days) showed 52.5 % with no infection 31.25%with ischemia and 16.25 % withinfection and ischemia.In the herbal group, it was noticed that 72.5% with no infection 15 % with ischemia and 12.5with infection and ischemia. χ2analysis showed significant difference. (P=0.023) This shows that the herbal treatment is better than the conventional treatment. The result in stage of the DFU was decreased significantly in the 30th day post test in the herbal treatment group and significantly much better than the conventional group.

Figure 1:2 shows the comparison of conventional and herbal treatment on diabetic wound ulcer and its classification of wound grade by using the University of Texas Scale. Conventional treatment first visit (pre-test) 64% epithelialized wound and20% superficial wound and in16% wound penetrates to tendon and capsule. Where as in the case of herbal group 70% was epitheliazed wound, 23% superficial wound and 8 % wound penetrates tendon and capsule. χ2 analysis showed significant difference. (P=0.231). Conventional treatment second visit (15 days):In the case of conventional treatment 69 % was epitheliazed wound, 23% superficial wound and 9 % wound penetrates to tendon or capsule. Whereas in case of herbal group 84% was epitheliazed wound 14% superficial wound and 3% wound penetrates tendon or capsule. χ2analysis showed significant difference. (P=0.059). Conventional treatment third visit (30 days) showed treatment 75 % was epitheliazed wound 24% superficial wound and 1% wound penetrates tendon or capsule. Whereas in the case of herbal group 90% was epitheliazed wound 9 % superficial wound and 1% wound penetrates tendon or capsule. χ2analysis showed significant difference. (P=<0.001) This shows that the herbal treatment is better than the conventional treatment.The result in stage of the DFU showed significant decrease in the 30th day post test, in the herbal treatment group and significantly better than the conventional group.

Figure 1:3 shows the comparison of conventional and herbal treatment on grading system for diabetic wound ulcer and infections by using the Wagner grading scale. In the conventional treatment first visit (pre-test): 90 % superficial ulcer of the skin or subcutaneous tissue and 10% ulcer extend into tendon, bone or capsules were observed. Where as in case of herbal group 95 % was superficial ulcer of the skin or subcutaneous tissue, 5% ulcer extend into tendon, bone or capsule. χ^2analysis showed no significant difference. (P=0.368). Conventional treatment second visit (post-test): 93 % superficial ulcer of the skin or subcutaneous tissue 7% ulcer extend into tendon, bone or capsule were observed. Where as in case of herbal group 96 % was superficial ulcer of the skin or subcutaneous tissue, 4% ulcer extend into tendon, bone or capsule. χ^2analysis showed no significant difference. (P=0.493). Conventional treatment third visit (post-test): 95 % superficial ulcer of the skin or subcutaneous tissue 5% ulcer extend into tendon, bone or capsule. Where as in case of herbal group 99 % was superficial ulcer of the skin or subcutaneous tissue, 1% ulcer extend into tendon, bone or capsule were observed. χ^2analysis showed no significant difference. (P=0.363). The Wagner grading system for diabetic foot infections grading scale shows there is no significant difference. Herbal treatment is to be better than conventional treatment but statistically not significant.

CONCLUSION

The study result concludes that the herbal treatment appears to be superior to the conventional medical treatment to heal the diabetic foot ulcer. This herbal formulation can be prepared domestically. It will cut down the hospitalization charges and frequent visit to the clinics. Patients with diabetes are at risk in developing foot ulcerations. The consequences of persistent and poorly controlled hyperglycemia lead to diabetic neuropathy, vascular abnormalities and ulceration.Foot ulceration is likely to arise, among 25% patients during their lifetime. Prevention is the first step towards solving diabetic foot problems. Estimate shows that every 30 seconds one patient with diabetic foot ulcer looses his ankle. About 85% of amputations are preventable. It is important to concentrate on the preventive measures rather than the mode of treatment.

Conflict of Interest: None declared

Ethical Clearance: The study was conducted after getting the written approval from the institutional human Ethics Committee of Saveetha University (009/2/2014/IEC/SU; Dated 18.12.2015).

Source of funding: self

REFERENCES

1. Harrison's(2008). Principles of Internal medicine. McGrawHill Medical Publication. 2275-2304.
2. Nalini S, David G, Benjamin A(2005). Preventing foot ulcers in patients with diabetes. The Journal of the American Medical Association. 217-228.
3. Lewis's(2015). Medical-surgical nursing. ELSEVIER publication. 1205-1239.
4. Gregory SS, David JB, David WM, Gloria AC(2004). Wound bed preparation and a brief history of TIME. The Journal of the International wound Journal. 19-32.

5. Radha KM, Anoop KS, Jaya G, Rikhab CS(2005). Multiple biological activities of curcumin. The Journal of the Life Sciences. ELSEVIER Publication 2081-2087.

6. Edward (2015). Diabetic ulcer natural care and regimen. The Journal of the Global healing centre. 52-56.

7. Jeffrey EJ(2006). A brief History of wound care. The Journal of the American Society of Plastic Surgeons. 6S-11S

8. Michael SB, Romesh K(2017). Diabetic foot infections medication. The Journal of the Medscape.

9. Menna LJ(2015). A short history of the development of wound care dressings. The British Journal of the Healthcare Assistants.

10. Dania A, Mali G, Wojciech C, Ramin R(2014). Curcumin as a Wound Healing Agent. The Journal of the Nanomedicine. ELSEVIER Publication. 97-103.

11. Tripathi A, Chandrasekaran N(2009). Antibacterial Applications of Silver Nano-particles Synthesized by Aqueous Extract of Azadirachta Indica Leaves. The Journal of the Biomedical Nanotechnology. 93-98.

12. Brian S(2017). Topical coconut mixture a better treatment for wounds and bacterial infections. The Journal of the Health Impact News.

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Effectiveness of Education Programme on Knowledge among Caregivers of Stroke Patients

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ABSTRACT

Introduction: Stroke is one of the leading causes of death and disability in India and the responsibility of care is often left with relatives or spouse of the stroke patients. The caregivers often reported lack of knowledge and understanding regarding care of stroke client. Hence this study was aimed to assess the effectiveness of structured education on knowledge among caregivers of stroke patients regarding stroke care.

Methods: A quasi experimental one group pre-test and post-test design was adopted. Twenty subjects were recruited by purposive sampling in a tertiary care teaching hospital, Andrapradesh. Each caregiver received individualized instruction and skill oriented training for 60 minutes/session, followed by 20 minutes of discussion in the clinical setting. . It includes various teaching strategies like lecture, discussion and demonstration using appropriate A.V. aids. The entire data collection and individualized instruction were done by two investigators who were nursing graduates at the time of data collection. The data were collected by questionnaire and participants above 13 (50%) and below 13(50%) were considered as adequate knowledge and inadequate knowledge respectively.

Results: The mean and standard deviation of knowledge scores before and after structured teaching programme were 13.65 + 3.16 and 20.05 + 3.36 respectively. It showed that there was significant gain in knowledge score after education programme (t=6.15,p value=0.0001).Hence, education programme will be beneficial in improving knowledge of the caregivers.

Key words: *education, stroke care, caregivers, stroke*

INTRODUCTION

"Developing countries like India are facing a double burden of communicable and non-communicable diseases. Stroke is one of the leading causes of death and disability in India. The estimated adjusted prevalence rate of stroke range, 84-262/100,000 in rural and 334-424/100,000 in urban areas".[1] In India, the proportional mortality rate of stroke was found to be 13%.[2] The discharged stroke patients often rely on caregivers support to meet various needs such as daily needs, information needs and rehabilitation needs. Further, the setting of rehabilitation are being shifted to home and community from institutions which makes the role of caregiver profound than ever.[3]

In India, the responsibility of care is often left with relatives or spouse of the stroke patients. Although the physical, psychological emotional and social consequence of care giving and its economic benefit to society are well recognized, caregivers' needs are often given low priority in the management of stroke.[4]

Research evidence suggests that many patients and caregivers continue to express a lack of understanding about stroke and its causes, secondary preventative measures, and information about both statutory and informal support.[5] It is also reported that they lack knowledge and training to take care of their post-stroke relatives.[4,6] Information needs of patients and informal caregivers in hospital and after discharge are not being met, despite the efforts of health services and voluntary agencies.[7,5]

Advances in stroke rehabilitation have successfully reduced severe disability and institutionalization, which has increased the number of disabled patients living at home and being supported by caregivers who feel

inadequately trained, poorly informed, and dissatisfied with the extent of support available after discharge.[8,9]

It is well recognized that a stroke educational program can increase the knowledge base of both the stroke individuals and their caregivers to prevent recurrence of stroke and reducing burden of caregivers.[10,11] However, the majority of caregivers continue to express dissatisfaction with the information received about stroke before discharge[8] and suggested for continuous improvements.[12]Hence this study aimed to determine the effectiveness of education programme on knowledge among the caregivers of stroke patients regarding stroke care.

OBJECTIVES

1. To assess the knowledge of the caregivers of stroke patients regarding stroke care before and after education programme.
2. To determine the effectiveness of education programme in terms of gain in knowledge among the caregivers of stroke patients.
3. To determine the association between knowledge and selected demographic variables.

HYPOTHESES

H1 - There is a significant gain in post test mean knowledge score than pre-test mean knowledge score.

ASSUMPTIONS

1. The caregivers may actively participate in the structured teaching programme.
2. The caregivers may be need of better information regarding the stroke care.
3. The caregivers may have distress while giving care to the patient. Distress may influence the learning capacity of the caregivers.

OPERATIONAL DEFINITIONS

Education programme

It is a systematically planned programme to teach the caregivers regarding care of patients with stroke. It includes various teaching strategies like lecture, discussion and demonstration using appropriate A.V. aids. Each caregiver receives individualized instruction and skill oriented training for 60 minutes / session, followed by 20 minutes of discussion in the clinical setting.

Caregiver

Caregiver is a non-professional person who provides overall care to the stroke patients including self-care, follow up care, assisting in mobilization and daily activities. He or she may be a family member / relative to the patient who is staying with the patient for a considerable period of time.

Stroke patient

A person who medically diagnosed as stroke by the physician.

METHODS AND MATERIALS

A quasi experimental one group pre-test and post-test design was adopted. Purposive sampling was used to recruit caregivers of stroke patients who were undergone treatment at GSL General Hospital, Rajahmundry, East Godavari District, Andrapredesh, India. Caregivers of the stroke patients who are suffering with hemiplegia/ hemiparesis and in the age group of 20 to 70 years were included.

Setting

The investigator selected outpatient and inpatient setting of G.S.L.General Hospital, Rajanagaram, a tertiary care centre at Rajahmundry. A formal permission was obtained from the Heads of Department of Neuro Medicine and General medicine.

Sample Size

The sample size was estimated as 20.

Ethical Consideration

Participants were informed about the study that is role of the participants, purpose of study, benefits of the study. Written consent was obtained from the individual participant. The participants were told that they were under no compulsion to participate in the study and would quit at any point of the time during the study.

Development of data collection tool

The primary and secondary sources of literature were reviewed to develop an appropriate tool. Expert from various fields like General Medicine, Neuro Medicine and Nursing Department gave their opinion and valuable suggestion to develop the research tool.

Description of data collection tool

Section-A: Section A consists of demographic data such as age, sex, education, occupation, religion, marital status, income, residential area etc.

Section - B: Section B consists of 25 questionnaires to assess the knowledge of caregivers of the stroke patients regarding stroke care i.e., meaning, risk factors, warning signs, transfer activities of the patients, clothing, feeding, ambulation etc.

Content validity

Content validity of intervention and tool was obtained from experts belonging to various fields. Expert from various fields like General Medicine, Neuro Medicine and Nursing Department have given suggestions and valuable opinions. The tool was given to language experts to translate into Telugu as it is spoken language of respondents. The tool in Telugu was retranslated into English by another expert and it was found logically matching.

Data collection procedure

A previously designed research tool was used to assess the knowledge of caregivers of stroke patients regarding stroke care. The entire data collection procedure was done between 9.00 A.M to 12.00 Noon.The participants were asked for consent before their assessment. Each caregiver received individualized instruction and skill oriented training for 60 minutes / session, followed by 20 minutes of discussion in the clinical setting. . It includes various teaching strategies like lecture, discussion and demonstration using appropriate A.V. aids. The entire data collection and individualized instruction were done by two investigators who were nursing graduates at the time of data collection.

Interpretation of score

As per suggestions of experts, the scores obtained by participants above 13 (50%) and below 13(50%) were considered as adequate knowledge and inadequate knowledge respectively.

RESULTS

The data collected from subjects were analyzed using descriptive statistical methods like percentage, mean and standard deviation, and inferential statistics like Chi-Square test and t test. The data were presented in tables and illustrated as diagrams. The 'p' value < 0.05 is fixed as significant.

As illustrated in **Table No.1**, the total number of caregivers of stroke patients aged below 30 years participated in the study was 7 (35%). Majority of them have adequate knowledge i.e., 6 members (30%) and only one participant (5%) had inadequate knowledge regarding care of the stroke patient.Among the caregivers of stroke patients, aged above 30 years, 6 participants (30%) had adequate knowledge and 7 participants (35%) had inadequate knowledge regarding care of the stroke patients. The obtained chi-square value (7.004,p value=0.008) revealed that there was significant association between knowledge and age of the caregivers.

Table No.: 1 Knowledge Level Of Participants According To Variables
N = 20

Variables		Number (n)	Inadequate knowledge	Adequate knowledge	Chi square 'P' value
Age	30 years and below	7	1	6	0.008*
	30 years and above	13	7	6	
Gender	Male	7	3	4	0.84**
	Female	13	5	8	
Education	Illiterate	5	5	0	0.004#
	Literate	15	3	12	

[#-Fisher exact test statistic, *-Significant, **-Non-significant, 'P' value<0.05 is significant, df = 1]

Majority of the caregivers participated in the study were male (7). Among them 4 (20%) participants had adequate knowledge and only 3 (15%) participants had inadequate knowledge regarding care of the stroke patients.The number of females participated in the study were 13. Among them, 8 participants (40%) had adequate knowledge, and 5 participants (25%) had inadequate knowledge regarding the care of stroke patients. The obtained chi square test value (0.036,p value=0.84) showed that there was no association between knowledge and gender of the caregivers.

Majority of the caregivers participated in the study were literate (15). Among them, 12 caregivers (60%) had adequate knowledge regarding the care of the stroke patients and 3 caregivers had inadequate knowledge. The number of caregivers participated in the study, 5 (25%) were illiterate. Among them, everyone had inadequate knowledge. The obtained Fisher exact test value (p value=0.004) revealed significant association between knowledge and education.

The mean and standard deviation of knowledge scores before and after structured teaching programme were 13.65 ± 3.16 and 20.05 ± 3.36 respectively **(Table No.2)**. The 't' value showed that there was significant gain in knowledge score after education programme(t=6.15,p value=0.0001). Thus hypothesis – 1 was supported.

Table No. : 2 Comparison Of The Pre And Post Test Knowledge Scores Of Caregivers

N = 20

Knowledge score	Mean	SD	Degrees of freedom	't' value	'P' value
Pre test	13.65	3.16	38	6.15	0.00001*
Post test	20.05	3.36			

['P' value < 0.05 is significant]

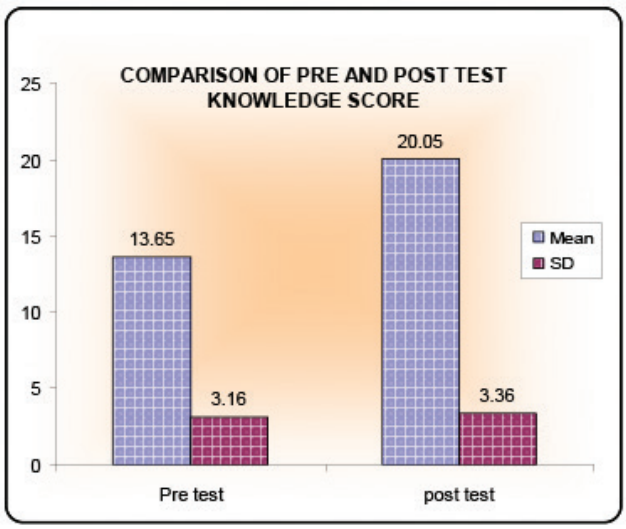

Figure 1: Comparison of Pre and Post test Knowledge score

DISCUSSION

The objective of the study was to determine the effectiveness of education programme on knowledge among the caregivers of stroke patients regarding stroke care. Twenty participants were recruited by purposive sampling.

The added value of the study is that it provides new information for in Telugu speaking population. Further it uncovered the facts and myths related to the knowledge and preparedness of the caregivers regarding care of patient with stroke.

This study finding showed that there was a significant association existed between age and knowledge of the participants. Majority of the participants (65%) aged above 30 years. Among them 50% of participants had inadequate knowledge after structured teaching programme. It is inconsistent with the study conducted by Stephanie et al[12] In their study the mean age of the participants was 49.04 (15.8). One of the possible reasons for this result lies in the characteristics of the caregiver. Majority of the participants may not represent the exact characteristics of population owing to purposive sampling method.

Majority of the participants were female (65%). Among them 61% of participants had adequate knowledge at post test level. In contrast, among males 50% of participants had a adequate knowledge. This study finding revealed that there was no significant association between sex and knowledge of the caregivers. It is inconsistent with the findings of Evans RL et al[13] and Anderson C et al[14]. In both of their studies majority of the participants were female. The possible explanation could be a caregiver may have the view that the family member will never be the same person he or she was before the illness. This creates long-term stress and may become a static component, making it difficult to reduce the stress of care giving even with participation in an educational programme. The stress perceived by the participants might be influenced the results.

Majority of the participants (65%) were literate. There was significant association existed between educational status and knowledge level. It is inconsistent with the findings of Jayaraj Durai Pandian et al[15] and the theory that literacy affects the performance of learning.[16] The plausible explanation is that, majority of participants were from urban area and in India, educational opportunities are more in the urban than in the rural area[15]

In this study, the post test knowledge score of the participants (20.05 ± 3.36) was significantly higher than the pretest knowledge score (13.65 ± 3.16). It is inconsistent with the study findings of Staphanie et al.[12]

It was interesting to observe even the majority of participants were female and aged above 30 years showed greater interest in attending the structured teaching programme. In response to a question "which may be the cause of pressure ulcer in hemiplegic patient?" Notable number of participants (60%) answered 'leaving the patient in same position'. It is pertinent to mention that 30% of caregivers had past family history of stroke.

There were several limitations in the present study. The small size of the sample in the present study may influence the results in the outcome measures, as well make it difficult to generalize the results to the caregivers. In addition, the lack of a control group in the present study may limit the ability to eliminate the possible effects on the outcome measures from the other co-treatments, such as occupational therapy sessions, physiotherapy training, and information obtainable from support group. Moreover, the present study only measured the attainment of knowledge, which was only part of learning, and not the modification of behaviour.

This study also leaves few interesting questions for future research:

1. Is there any difference in knowledge of caregivers of stroke patients in terms of perceived burden and social support?
2. Whether the knowledge gained during education had an impact on practice and patient related outcomes?

CONCLUSION

In conclusion, it was observed that majority of the participants were females, spousal caregivers and had inadequate knowledge regarding stroke care. The education programme was an effective intervention to improve knowledge of the participants and hence, it is recommended.

Conflict of Interest: None

Funding: Nil

REFERENCES

1. Pandian JD, Sudhan P. Stroke Epidemiology and Stroke Care Services in India. *JournalofStroke*.2013;15(3):128-134. doi:10.5853/jos.2013.15.3.128.
2. Joshi R, Cardona M, Iyengar S, Sukumar A, Raju CR, Raju KR, *et al*. Chronic diseases now a leading cause of death in rural India-mortality data from the Andhra Pradesh rural health initiative. Int J Epidemiol 2006;35:1522-9. https://doi.org/10.1093/ije/dyl168
3. Han B Haley WE. Family care giving for patients with stroke: review and analysis. stroke 1999; 30(7): 1478 – 85. https://doi.org/10.1161/01.STR.30.7.1478
4. Scholte op Reimer WJM, de Haan RJ, Rijnders PT, Limburg M, van den Bos GAM. The burden of caregiving in partners of long-term stroke survivors. Stroke. 1998;**29(8)**:1605–1611. https://doi.org/10.1161/01.STR.29.8.1605
5. Wellwood, I, Dennis, MS, Warlow, CP. Perceptions and knowledge of stroke among surviving patients with stroke and their careers. Age Ageing. 1994;23:293–298.
6. Lui, MHL, Mackenzie AE. Chinese elderly patients' perceptions of their rehabilitation needs following a stroke. Journal of Advanced Nursing.1999; 30(2): 391–400. **https://doi.org/**10.1046/j.1365-2648.1999.01087.x
7. Hanger HC, Mulley GP. Questions people ask about stroke. Stroke. 1993; 24(4): 536 – 538. https://doi.org/10.1161/01.STR.24.4.536
8. WELLWOOD I, DENNIS M, WARLOW C. Patients' and carers' satisfaction with acute stroke management. Age and Ageing. 1995 Nov 1;24(6):519-24. https://doi.org/10.1093/ageing/24.6.519
9. Simon C, Kendrick T. Community provision for informal live-in carers of stroke patients. Br J Community Nurs 2002; 7(6): 292 – 298. https://doi.org/10.12968/bjcn.2002.7.6.10473
10. Rodgers H. Atkinson C, Bond S, Suddes M, Dobson R, Curless R. Randomized control trial of a comprehensive stroke education programme for patients and caregivers. Stroke.1999;30(12):2585–2591. https://doi.org/10.1161/01.STR.30.12.2585
11. Dale L, Gallant M, Kilbride L, Klene D, Lyons A, Parnin L et al. Stroke care givers do they feel prepared?. Occup ther Health care. 1997; 11: 39–53.
12. Louie SW, Liu PK, Man DW. The effectiveness of a stroke education group a person with

stroke and their caregivers. Int J RehabilRes. 2006;29(2):123-129. https://doi.org/10.1097/01.mrr.0000191851.03317.f0

13. Evans RL, Bishop DS, Haselkorn JK. Factors predicting satisfactory home care after stroke. Arch Phys Med Rehabil. 1991;72(2):144–147. https://www.ncbi.nlm.nih.gov/pubmed/1991016

14. Anderson CS, Linto J, Stewart – Wynne EG.A population based assessment of the impact and burden of care giving for long term stroke survivors Stroke 1995; 26(5): 843 – 849. https://doi.org/10.1161/01.STR.26.5.843

15. Pandian JD, Kalra G, Jaison A, Deepak SS, Shamsher S, Singh Y, Abraham G. Knowledge of stroke among stroke patients and their relatives in Northwest India. Neurol India [serial online] 2006 [cited 2017 Jul 9];54:152-6. Available from: http://www.neurologyindia.com/text.asp?2006/54/2/152/25955.

16. Vanetzian E. Learning readiness for patient teaching in stroke rehabilitation. Journal of Advanced Nursing.1997;26(3):589–594. doi:10.1046/j.1365-2648.1997.t01-20-00999.x.

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Antiphospholipid Antibody Syndrome (Aplas)–A Case Report

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ABSTRACT

AntiPhosphoLipid Antibody Syndrome (APLAS/ APS) is an auto immune disorder that manifests clinically as or recurrent venous arterial thrombosis and/or fetal loss. Almost all auto immune diseases appear without warning or apparent cause. Diagnosing APLA Syndrome is complex and requires extensive laboratory tests. The hallmark result from laboratory tests that defines APLAS is the presence of AntiPhosphoLipid Antibodies (APLA) or abnormalities in phospholipid-dependent tests of coagulation. Once the disease is diagnosed, adequate therapy and meticulous nursing care is vital to prevent the recurrence of the symptoms.

Keywords : *AntiPhosphoLipid Antibody Syndrome (APLAS/ APS), autoimmune, phospholipids, AntiPhosphoLipid Antibodies (APLA), Thrombosis, SLE*

INTRODUCTION

The AntiPhosphoLipid Antibody syndrome also known as Hughes Syndrome, is a disorder characterized by multiple different antibodies that are associated with both arterial and venous thrombosis (clots). Historically, AntiPhosphoLipid Antibodies (APLA) was first noted in patients who had positive tests for syphilis without signs of infection. Subsequently, it was associated with patients with Systemic Lupus Erythematous (SLE) in 1952. APLA are proteins that may be present in the blood and may increase your risk for blood clots or pregnancy losses. Dr. Graham Hughes (1983) described the association between AntiPhosphoLipid Antibodies and arterial as well as venous thrombosis. (Urbana Carle Cancer Centre hematology resource) 1

Other names of APLAS (National Institute of Health science) 2

- Anticardiolipin antibody syndrome, or anticardiolipin (aCL) syndrome
- Antiphospholipid syndrome (APS)
- Antiphospholipid (aPL) syndrome
- Hughes syndrome
- Lupus anticoagulant syndrome

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Epidemiology :

- The prevalence in the general population is around 2-4%. Prevalence increases with age, especially in patients with coexistent chronic disease.
- APLAS affects women 5 times more common than men. Diagnosed between the ages of 30 and 40. Common with SLE.
- More common in young to middle-aged adults; however, it also manifests in children and elderly people.
- No racial predominance.(Urbana Carle Cancer Centre hematology resource, National Institute of Health science, Suneel M, Elise B, Steven C) [1-3]

Etiology :

The causes are unknown. In APLAS, the homeostatic regulation of blood coagulation is altered; however, the mechanisms of thrombosis are not yet defined. Many hypotheses have been postulated.

Risk factors :

- During Pregnancy
- Use of oral contraceptives
- Post- operatively

- Smoking
- Prolonged bed rest
- Pregnancy and the postpartum period
- Birth control pills and hormone therapy
- Cancer and kidney disease (National Institute of Health science, Suneel M, Elise B, Steven C) [2,3]

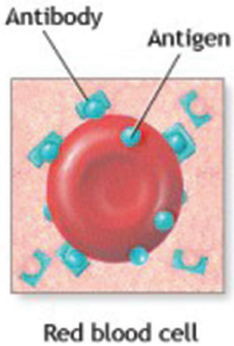
Types :

There are two main types of APLAS.

- **Primary APLAS:** The individual has no known autoimmune disease present, other than APS. Primary APLAS accounts for more than 50% of all cases.
- **Secondary APLAS:** If an individual has been SLE or another underlying immune disorder tends to develop APLAS. SLE is the most common autoimmune disorder linked to those with APLAs. (Urbana Carle Cancer Centre hematolog y resource, Suneel M, Elise B, Steven C) 1,3

ANATOMY AND PHYSIOLOGY

Clots form when proteins and platelets in the blood interact with one another and with the blood vessel wall at the site of injury. All cells in the body have membranes made of **phospholipids**, a class of **lipids** (fatty acids) that hold the cell together.



An antibody is a protein produced by the immune system in response to the presence of an antigen

An **antibody** is a protein that is produced by the plasma (blood) cells and used by the immune system. The antibodies seek out and target **antigens** (foreign objects such as viruses and bacteria). The purpose of these **proteins (antibodies) within phospholipids** is to control how quickly or slowly blood clots. (Tortora GJ, Derrickson BH) 4

PATHOPHYSIOLOGY

The antiphospholipid antibody syndrome is an autoimmune phenomenon. In APLAS, the body mistakenly identifies phospholipids, or proteins bound to the phospholipids, as foreign substances and forms antibodies against them. These antibodies are called APLA. Their presence can lead to blood clots or pregnancy loss. However, in some people, they do not cause any problems. (Suneel M, Elise B, Steven C) 3

In APLAs, the antibodies decrease the number of phospholipids available to help the clotting proteins form a clot. *However, APLAS within the body actually cause the opposite reaction and increase the tendency toward clotting.* The exact mechanism by which the antiphospholipid antibodies and anticardiolipin antibodies induce thrombophilic state is not known.

Body attacks phospholipids, or proteins bound to the phospholipids

↓

Forms antibody against coagulation factors (prothrombin, protein C, protein S, and annexins)

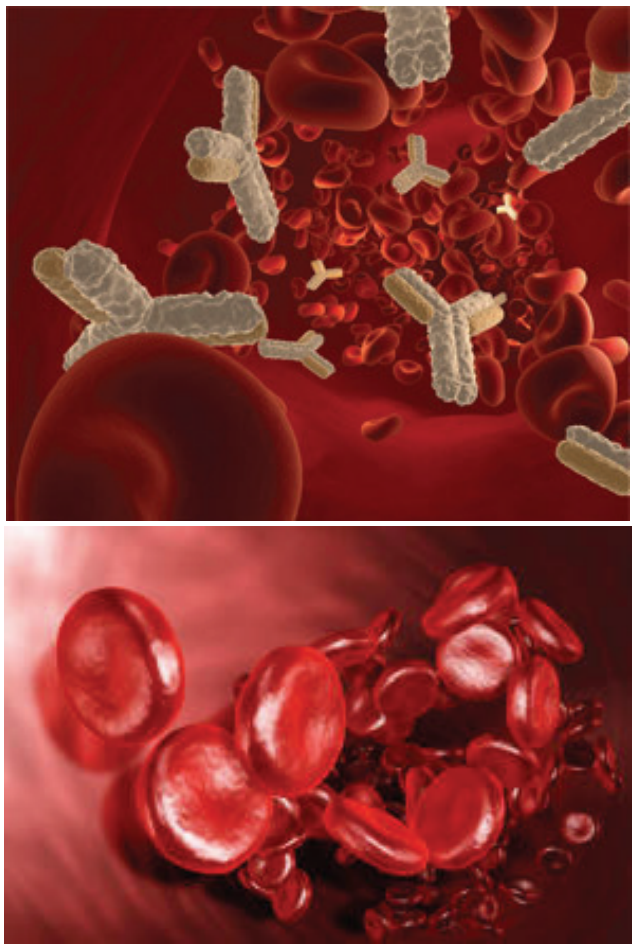
↓

Phospholipids & proteins not available

↓

- Increases the tendency to form clots
- Facilitates vascular endothelium to bind to platelets and monocytes
- Activates platelets to enhancing endothelial adherence
- Acts on Oxidized Low Density Lipoprotein & increases the risk of atherosclerosis and Myocardial Infarction (MI)

APLA may interact with the cells on the inner surface of blood vessels, making them more prone to form clots. They may interact with blood platelets, making them stickier and more likely to cause clots. Moreover, the APLAS may prevent the body's natural ability to break up blood clots by interfering with substances in the blood that normally prevent excessive clotting (protein C and S). As a result, a patient suffering with APLA Syndrome has an abnormally higher chance of blood clotting or narrowed blood vessels.



Blood clotting/ Thrombosis in APLA syndrome

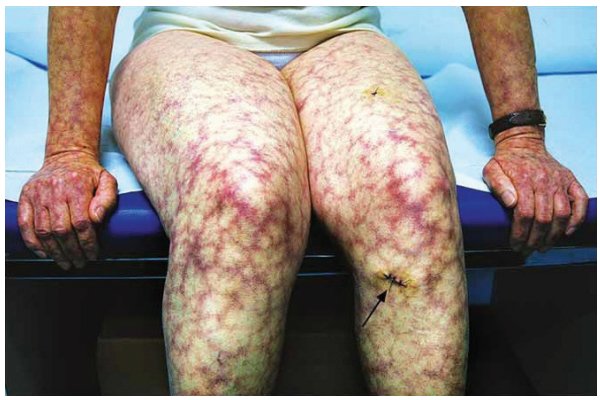
There are three primary classes of antibodies associated with the APLAs

1. Anticardiolipin antibodies (aCL)
2. The Lupus Anticoagulant (LAC) and
3. Beta-2-glycoprotein Anti-β_2 GPI antibody. (Suneel M, Elise B, Steven C)[3]

Signs and symptoms :

The series of events that leads to hypercoagulability and recurrent thrombosis can affect virtually any organ system, including the following: (Suneel M, Elise B, Steven C, Misita CP, Moll,S) [3,5]

- **Peripheral venous system:** A clot may appear for the first time as a blood clot in an artery or vein eg. Deep Vein Thrombosis [DVT]. Can lead to embolism.
- **Central nervous system:** Embolic stroke or cerebrovascular thrombosis can occur. Patients may present with CerebroVascular Accident [CVA], sinus thrombosis, seizures, chorea, reversible cerebral vasoconstriction syndrome.
- **Peripheral nervous system :** Individuals with APLA syndrome may present with peripheral neuropathy
- **Hematologic:** Usually manifest with history of thrombocytopenia, hemolytic anemia.
- **Obstetric:** A woman who has recurring pregnancy loss may find out through testing that APLAs might be the underlying cause. (pregnancy loss, eclampsia)
- **Pulmonary:** Usually in APLA patients present with dyspnea due to pulmonary embolism [PE], or pulmonary hypertension.
- **Dermatologic:** Some people may develop a rash that can be described as red with a mottled or lacy, net-like pattern. This is called Livedo reticularis.



Antiphospholipid syndrome: Livedo reticularis

- **Cardiac:** Common manifestations are Myocardial Infarction (MI), and diastolic dysfunction, endocarditis.
- **Ocular:** It includes amaurosis (Loss of vision) and retinal thrombosis due to retinal artery occlusions.
- **Adrenal:** May present with adrenal insufficiency due to infarction/hemorrhage.
- **Musculoskeletal:** Patient may present or develop avascular necrosis of bone
- **Renal :** Thrombotic microangiopathy - Renal manifestations vary from asymptomatic proteinuria to renal failure.

DIAGNOSTIC TESTS

Laboratory tests:

- Anti- CardioLipin antibodies (aCL antibodies IgG, IgM)
- Lupus Anticoagulant (LA) tests
- Anti–beta-2 glycoprotein I antibodies (IgG, IgM)
- Activated partial thromboplastin time (aPTT) is usually prolonged in APS
- CBC count (thrombocytopenia, hemolytic anemia)

Imaging studies:

- CT scanning or MRI of the brain to detect CVA, and CT thorax to rule out PE.
- Doppler ultrasound studies helps to detect DVT.
- Two-dimensional echocardiography: asymptomatic valve thickening, vegetations, or valvular insufficiency; aortic or mitral insufficiency (Gomez- Puerta JA, Cervera R, Brandt JT, Triplett DA, Alving B , Scharrer I, Wilson WA, Gharavi AE, Koike T, Lockshin MD)[6-8]

DIAGNOSTIC CRITERIA

Diagnosing APLAS is very complex, since the signs & symptoms are very vague and mimics other diseases, Updated Sapporo classification criteria for AntiPhosphoLipid Antibody syndrome (APLAs) (Gomez- Puerta JA, Cervera R, Brandt JT, Triplett DA, Alving B , Scharrer I, Wilson WA, Gharavi AE, Koike T, Lockshin MD) [6-8]

Clinical criteria

1. Vascular thrombosis: ≥1 arterial, venous, or small vessel thrombosis.
2. Pregnancy morbidity
   a. ≥1 fetal death (at or beyond the 10th week of gestation)
   b. ≥1 premature birth before the 34th week of gestation because of eclampsia, severe preeclampsia, or placental insufficiency
   c. ≥3 consecutive (pre) embryonic losses (before the 10th week of gestation)

Laboratory criteria

1. Lupus anticoagulant positivity on ≥2 occasions at least 12 weeks apart.
2. Anticardiolipin antibody (IgG and/or IgM) in medium or high titer (i.e., >40, or above the 99th percentile), on two or more occasions at least 12 weeks apart.
3. Anti-β2-glycoprotein-I antibody (IgG and/or IgM) in medium or high titer (i.e., above the 99th percentile) on two or more occasions at least 12 weeks apart.

Definite APS is present if at least one of the clinical criteria and one of the laboratory criteria are met

A person is diagnosed to have *APLA syndrome,* only if a person had a blood clot or pregnancy loss and a test for APLAs has been positive more than once, that is measured at least 6 weeks apart.

Treatment:

Treatment for APS is an individualized regimen according to the patient's current clinical status and history of thrombotic events. Asymptomatic individuals in whom blood test findings are positive do not require specific treatment. (Suneel M, Elise B, Steven C, Misita CP, Moll,S, Meroni, P)[3,5,9]

MEDICAL MANAGEMENT

Anticoagulants

- Intravenous heparin or subcutaneous low-molecular-weight heparins may be used at the time of the acute clot and, in a few cases, for long-term anticoagulation.
- Oral anticoagulants such as coumarins can be used. Monitor International Normalized Ratio (INR), maintain between 2.0 - 3.0. (Meroni, P) [9]
- Women with APLAs who have recurrent pregnancy loss may be given anticoagulants with aspirin during pregnancy.

Antiplatelet Agents:

Arterial clots are treated with antiplatelet agents such as aspirin, clopidogrel (Plavix), and aspirin combined with dipyridamole (Aggrenox).

Immunosuppressant's and Other Therapy:

Immunosuppressant's are drugs that interfere with the immune system to treat patients with APLAs. Examples are cyclophosphamide, azathioprine, hydroxychloroquine, rituximab, and steroids (eg, prednisone).

In catastrophic APLA syndrome, it may be necessary to periodically remove the APLAs from the blood hence plasmapheresis is recommended.

Surgical management:

Surgical management is usually the placement of an inferior vena cava filter for patients with recurrent DVT.

Previous

Nursing management:

Nursing management plays a vital role in preventing APLAs among patients with auto immune diseases.

Prevention:

Prevention is mainly by eliminating / control / modifying the risk factors that increase the chances of developing blood clots:

- *Avoid smoking or use of tobacco products*
- *Keep cholesterol and triglyceride levels low*
- *Avoid prolonged immobilization.*
- *Control blood pressure*
- *Maintain weight or losing weight*
- Educate the patient about anticoagulation therapy. Instruct the patient to avoid excessive consumption of foods that contain vitamin K to maintain INR & to avoid contact sports.
- Limit activity in patients with acute DVT.
- Stress the importance of early recognition of a possible clinical event & minimizing modifiable risk factors.
- Discuss the importance of planned pregnancies so that long-term warfarin can be switched to aspirin and heparin.
- Teach the importance of compliance to therapy & need for follow-up. (Suneel M, Elise B, Steven C, Meroni, P) [3,9]

COMPLICATIONS

Venous & Arterial Clots:

Clots are most commonly either a Deep Vein Thrombosis in the leg or a Pulmonary Embolism in the lung. APLAs may also cause clots in the arteries, such as stroke, MI. (Suneel M, Elise B, Steven C, Meroni, P)[3,9]

Pregnancy Complications:

APLAs are present in approximately 10% to 20% of women with recurrent miscarriage. APLAs are associated with other pregnancy complications, including eclampsia, preeclampsia, and placental insufficiency. (Suneel M, Elise B, Steven C)[3]

Other Clinical Presentations:

Variety of other clinical findings, including low platelets, anemia, heart valve disease, skin rashes, mini-strokes, joint pain, joint inflammation, dry eyes, and dry mouth.

Catastrophic APLA Syndrome

A very small group of people with APLAs develop multiple clots in different organ systems (kidney, brain, heart, lungs & extremities) throughout the body within a matter of days. This is called *catastrophic APLA syndrome*. Resulting with multi-organ failure and a high risk of dying.[3]

Prognosis:

With appropriate medication and lifestyle modifications, most individuals with primary antiphospholipid syndrome (APLAS) lead normal healthy lives. 10-year survival is found to be approximately 90-94%. (Suneel M, Elise B, Steven C)[3]

CASE REPORT

Mrs. P, a 27 year old woman, got admitted to the medical unit with facial puffiness, right upper limb swelling progressing to anasarca, dyspnea on exertion, which gradually progressing to dyspnea at rest, fatigue, loss of appetite, has history of multiple miscarriages/ Abortions. Delivered a girl baby after 7 years by Lower Section Caeserian Section (LSCS). She is a known case of Bronchial asthma for 7 years, on inhalers.

Physical examination revealed, RR-32/min, uses accessory muscles for breathing, anasarca, multiple purpuric spots, bilateral lower limb swelling, warmth,

tenderness & redness. On auscultation she had bilateral crepts, wheeze, & pleuritic friction rub. On CPAP with 100 % FiO2, SaO2 ranging 92- 95%. Weight: 110 kgs.

Investigations revealed platelet count (10,000cu/ mm), prolonged prothrombin time (45.7 sec), International Normalized Ratio (INR) 4.8, D- Dimer was positive. DS DNA was speckled, ANA 3+, ACLA, & APLA were positive. X- Ray showed massive bilateral pleural effusion, atelectasis, CT thorax and angiogram revealed Superior Vena Cava (SVC) obstruction with extensive collaterals, Query Pulmonary embolism in the lower segmental arteries of right pulmonary artery, large pleural effusion. Doppler showed SVC and Internal Jugular Vein thrombosis. Right sided chest tube was inserted which drained chylous fluid.

Nursing care: (Gulanick M, Myers JL)[10]

1. **Nursing diagnosis:** Ineffective breathing pattern related to inflamed airways & alveoli, fluid filled alveoli, collapse of lungs.

   Expected outcome: Patient maintains effective breathing pattern as evidenced by relaxed breathing, normal rate and depth and absence of dyspnea.

   Interventions
   Monitored the respiratory rate, rhythm, depth and SaO2

   Positioned her in Low Fowlers position, changed position Q2H

   Administered oxygen as per order, on Continuous Positive Airway Pressure (CPAP) with 100% Fio2

   Maintained the chest drainage system effectively, it drained chyle.

   Taught her deep breathing and coughing exercise

   Incentive spirometer was taught and continued

   Administered oral and IV steroids and nebulizer as per MAR

   Fluid restriction was maintained/ enhanced (1L/day)

   Assisted in right sided betadine pluerodiesis

   Evaluation
   Mrs. P breathing pattern was maintained with the support of CPAP, throughout her stay in the hospital / until discharge.

2. **Nursing diagnosis:** Impaired gas exchange related to collapse of lungs, obstruction in pulmonary vascular bed by emboli, inflamed airways & alveoli, fluid filled alveoli.

   Expected outcome: Patient maintains optimal gas exchange as evidenced by ABGs with in the usual range. SaO2 with in normal limits, alert, relaxed breathing, normal rate and depth and absence of dyspnea.

   Interventions
   Monitored vital signs periodically

   Administered oxygen as per order, on Continuous Positive Airway Pressure (CPAP) with 100% FiO2 slowly weaning her to 60% Fio2.

   Positioned her comfortably preferably in Fowlers

   Maximized her rest periods to conserve energy

   Monitored for signs and symptoms of hypoxia

   Administered anti-coagulants swiftly Tab. Warfarin 7& 6mg OD on alternative days while regularly monitoring INR

   Auscultated her lungs for adventitious sounds.

   Maintained the chest drainage system patent and noted the characteristics of drainage.

   Assisted in right sided betadine pluerodiesis

   Evaluation
   She maintained optimal gas exchange with the support of CPAP as evidenced by SaO2 between 95-97%. While on CPAP, an attempt of ambulation led to desaturations.

3. **Nursing diagnosis:** Activity intolerance related to imbalance between O2 supply and demand

   Expected outcome: Patient exhibits tolerance to physical activity as evidenced by normal vital signs on exertion, ability to participate actively in Activities of Daily Living (ADL) and absence of dyspnea.

   Interventions:
   Assessed the patient ability or level of tolerance to activity

   Monitored her vital signs periodically

   Assisted her with ADL as indicated.

   Encouraged to do range of motion & strengthening exercises

   Taught her energy –conservation techniques

   Provided adequate rest periods and encouraged to do physical activity consistent with her energy resources

Ambulated her as per tolerance.

Administered O2 as per order, Pre-oxygenated her before ambulation.

Evaluation:
Mrs. P participated in minimal ADL with support and was not able to tolerate activity such as ambulation. On ambulation she had significant desaturations and hypotension.

4. **Nursing diagnosis:** Excess fluid volume related to compromised regulatory mechanisms, steroid therapy

   Expected outcome: Patient maintains normovolemia as evidenced by balanced intake and output, stable weight, reduction of edema, normal vital signs on exertion, and absence of pulmonary crackles and dyspnea.

   Interventions

   Monitored intake and output closely

   Made a fluid plan and Maintained fluid restriction as 1L/day

   Elevated edematous extremity and handled with care

   Administered IV fluids as per order and other infusion using infusion pumps

   Taught and reinforced the importance of strict intake output chart maintenance

   Positioned her in Fowler's position and changed her position Q2H

   Monitored her weight OD and electrolyte levels

   Evaluation

   Optimal fluid balance was maintained as evidenced by (I /O= 1450/950), stable vital signs, weight loss of 4 Kgs, absence of crackles on auscultation.

Probable nursing diagnosis:

- Risk for impaired skin integrity related to edema, obesity, prolonged bed rest.
- Bathing, toileting, feeding, deficient self-care related to decreased O2 carrying capacity, weakness,
- Ineffective individual and family coping related to poor prognosis, disturbed family process, lack of financial support, long term hospital stay.

Mrs. P developed Catastrophic APLA though she was on anticoagulants. She developed multiple venous clots & diagnosed to have catastrophic APLA though all the interventions were carried out effectively.

CONCLUSION

Diagnosing auto immune disease is very difficult and it takes months or years before the physician obtains a correct diagnosis. The presentation of symptoms may vary from one individual to other and the patients do visit 3 or more doctors which further complicate/ delays diagnosis and treatment. Diagnosis & treatment of APLAS is quite challenging and most of the patients develop many complications which causes mortality. Hence prevention is better than cure and nurses play a vital role in educating patients about healthy life style and preventing complications in patients with autoimmune disease. Meticulous nursing care is important in patients with autoimmune diseases since they have remissions & exacerbations and also with long term therapy. Its nurse's responsibility to provide periodic counseling and encourage patients' to be compliant to therapy.

Conflict of interest: No conflict of interest

Source of Funding: Not Applicable

Ethical clearance: In this article patient's identity is concealed. (No images of patient are included). Since ours is a teaching institution we use patient's clinical data for educational purposes.

REFERENCES

1. University of Illinois - Urbana/Champaign Carle Cancer Center Hematology Resource Page Patient Resources Antiphospholipid Antibody Syndrome Available from: http://www.med.illinois.edu/hematology/ptaps.htm
2. How Is Antiphospholipid Antibody Syndrome Diagnosed? Available from https://www.nhlbi.nih.gov/health/health-topics/topics/aps/names
3. Suneel M, Elise B, Steven C. Antiphospholipid Syndrome-pratice essentials, pathophysiology. 2014. Available from: http://emedicine.medscape.com/article/333221-overview#showall
4. Tortora GJ, Derrickson BH. Principles of anatomy and physiology. John Wiley & Sons; 2008

5. Misita, CP. Moll, S. Cardiology Patient Page: Antiphospholipid antibodies. Circulation, 2005. 112, e39-e44.

6. Gómez-Puerta JA, Cervera R. Diagnosis and classification of the antiphospholipid syndrome. J Autoimmun. 2014 Feb-Mar. 48-49:20-5. [Medline].

7. Brandt JT1, Triplett DA, Alving B, Scharrer I. Criteria for the diagnosis of lupus anticoagulants: an update. On behalf of the Subcommittee on Lupus Anticoagulant/Antiphospholipid Antibody of the Scientific and Standardisation Committee of the ISTH. Thromb Haemost. 1995 Oct;74(4):1185-90.

8. Wilson WA, Gharavi AE, Koike T, Lockshin MD, Branch DW, Piette JC, et al. International consensus statement on preliminary classification criteria for definite antiphospholipid syndrome: report of an international workshop. Arthritis Rheum.1999;42:1309–1311.

9. Meroni, P. American College of Rheumatology. Antiphospholipid Syndrome. Available from: http://www.rheumatology.org/Practice/Clinical/Patients/Diseases_And_Conditions/Antiphospholipid_Syndrome.

10. Gulanick M, Myers JL. Nursing care plans: nursing diagnosis and intervention. Elsevier Health Sciences; 2013

11. Thrombosis in APLA syndrome. Available from: http://www.indiamart.com/immunoshop/diagnostic-test-instruments.html- Diagram

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Health Problems of Children Attending Anganwadis

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ABSTRACT

The underfive children are vulnerable to many healthy problems, so they should be cared for and brought with sensibility and sensitivity from the very tender age itself. The present study was intended to assess the health problems of children attending Anganwadis in rural Panchayats in Thiruvananthapuram District.

A descriptive study was conducted among 220 children between the age group 2-5 years in 22 randomly selected Anganwadis of rural panchayat. Socio-demographic performa, Physical assessment format and interview schedule was used to collect data.

Results: From the study, it was found that 14.1% of children were found to be short for age. 15.9% were having Protein Energy Malnutrition (PEM). As reported by mothers fever caused the highest morbidity (57.3%) followed by respiratory problems (27.3%) and diarrhoea (20.9%) during the last 1 year.

Key words: *Underfive children, Health problems, Protein Energy malnutrition*

INTRODUCTION

A nation's most important and precious resource is its children who constitute its hope for continuous achievement and productivity. Children between 2-5 years of age is the period in a child's life when he is most responsive to positive environmental influences which enhance and expand his development. Emphasis must be assigned to programmes of prevention and early intervention.[1]

According to a report of UNICEF, India accounts for 22% of total under five children death worldwide. Unhygienic environment combined with high population density creates a perfect storm of disease to thrive and malnutrition to flourish.

Acute respiratory infections in children less than 5 years are the leading cause of childhood mortality in the world. A cross sectional study on morbidity pattern of underfive and health seeking behavior of their parents in coastal areas of Pondicherry showed that 98.9% of under five children experienced atleast one health problem. 80.4% of them had respiratory problems followed by fever (53%) and Protein Energy Malnutrition (40.9%) and diarrhoea (21.1%).[2]

Malnutrition among underfive is a major public health problem in India. In a study conducted in an urban slum in India it was found that prevalence of stunting among underfive are found to be 34.77%. Determinants found to be significantly ($p<0.05$) associated with stunting were lower socio economic status work status of mother, not exclusively breastfed for 6 months and immunization not up to age.[3] A cross sectional study on health profile of under fives in a rural village under primary health centre in Kerala showed the most common disease in a age 0-2 years were acute respiratory tract infection (22.20%) and diarrhoea (29.82%).[4]

OBJECTIVES

1. Identify the health problems of children attending Anganwadis.
2. Find out the association between health problems and socio demographic variables.

RESEARCH METHODOLOGY

A descriptive approach was used for the study. The study population consisted of children between 2-5 years attending Anganwadis in a rural panchayat in Thiruvananthapuram District. The sample size was 220. The children were selected from 22 Anganwadis in Sreekaryam Panchayat. Tools used for the study

were demographic proforma. Interview schedule to assess health problems of children during the last one year physical assessment format and observation record consists of grades of protein energy malnutrition as per weight for age based on IAP classification.

Permission was obtained from Medical College Ethics Committee, Thiruvananthapuram, Child Development project Officer and Medical Officer in Charge of Primary Health Centre. After getting consent, children and their mothers were contacted at Anganwadi and administered questionnaire to mothers. Mothers were interviewed to finds out children's health and health problems during the last one year followed by physical assessment of children.

RESULT

Socio demographic data of children.

Table1: Distribution of socio demographic characteristics of children.

Sl. No.	Sample characteristics		Frequency and percentage
1	Age	2-3 years	48 (21.8)
		3-4 years	97 (44.1)
		4-5 years	75 (34.1)
2	Gender	Male	123(55.9)
		Female	97 (44.1)
3.	Religion	Hindu	184 (83.6)
		Christian	17 (7.7)
		Muslim	19 (8.7)
4.	Type of family	Nuclear family	116 (52.7)
		Joint family	104 (47.3)

Table2: Socio demographic data of mothers of children.

Sl. No.	Sample characteristics		Frequency and percentage
1.	Education of mother	Illiterate	2 (0.9)
		Primary School	10 (4.5)
		Middle school	14 (6.4)
		High school	111 (50.5)
		Intermediate	44 (20.0)
		Graduate/Post graduate	29 (13.2)
		Professional	10 (4.5)
2.	Occupation of mother	Un employed	194 (88.2)
		Unskilled workers	7 (3.2)
		Semi skilled workers	8 (3.6)
		Skilled Workers	3 (1.4)
		Clerical, shop owner, farmer	2 (0.9)
		Semi professional	6 (2.7)
3.	Socio economic status (Kuppuswamy scale)	Lower	1 (0.5)
		Upper lower	121 (55.0)
		Lower middle	60 (27.2)
		Upper middle	38 (17.3)
		Upper	0 (0)

Table3: Distribution of children according to degree of protein energy malnutrition.

Degree of PEM	Frequency	Percentage
Normal	185	84.1
Grade I	31	14.0
Grade II	3	1.4
Grade III	1	0.5

Among the children 14% had grade I, 1.4% had grade II, and 0.5% had grade III degree protein energy malnutrition. 15.9 of the children had PEM.

Table4: Distribution of children according to the health problems during the last on year.

Health Problems during last one year		Frequency	Percentage
Diarrhoea	No	174	79.4
	Yes	46	20.9
Respiratory problems	No	160	72.7
	Yes	60	27.3
Abdominal problems	No	213	96.8
	Yes	7	3.2
Skin problems	No	199	90.5
	Yes	21	9.5
Fever/infections	No	94	42.7
	Yes	126	57.3
Dental problems	No	206	93.6
	Yes	14	6.4

Fever (57.3%) was the major health problems among children of the age group 2-5 years during the last one year. Respiratory problems accounted for 27.03% of the health problems. Many of the children (20.9%) had atleast one episode of diarrhoesa during the previous year. Skin problems (9.5%). Dental problems (6.4%) vomiting (5.5%) were other health problems as reported by the mothers.

Table 5: Frequency of children according to findings of physical assessment.

Physical assessment findings		Frequency	Percentage
Skin	Rashes	24	10.9
	Hyperpigmented patches	3	1.4
	Hypopigmented patvhes	10	4.5
Hair & scalp	Sparse & thin hair	3	1.4
	Dandruff	3	1.4
eyes	Pallor	25	114
Nose	Running nose	35	15.9
	Deviated nasal septum caries teeth	1	0.5
Tongue & gums	Plaque	7	3.2
	Carries teeth	19	8.6
Nails	Pallor	7	3.2
	Unhygeinic	94	42.7

Table 6: Association between socio demographic variables and health problems of children

Variable	χ^2	P
Sex of child	1.119	0.572
Socio economic status of family	7.38	0.117
Type of family	2.45	0.293
Maternal education	4.14	0.388
Health information of mother	3.08	0.214

There is no significant association between sociodemographic variables and health problems of children.

DISCUSSION

The study revealed that 15.9% of children below 5 years had protein energy malnutrition (PEM) among which 14% had grade I, 1.4% had grade II and 0.5% had grade III PEM. 42.7% of children had unhygienic nails and 8.6% had problems of dental carries. 77.3% of children has atleast one or more health problems in the previous year.Since malnutrition forms a major disease burden of childhood and constitutes about 50% of morbidity and mortality among children it is higher type to take corrective and preventive actions to decrease the burden on the country

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Conflict of interest: Nil

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Ethical clearance from Human Ethical Committee, Medical College, Thiruvananthapuram and consent from participants.

REFERENCES

1. Singh M. Rule of Nutrients for physical growth and mental development. International Journal of Paediatri. 2004;71.
2. www.childrencensusindia.gov.in
3. Venkatachalam, Zile Singh. A cross sectional study on morbidity pattern of under five and health seeking behavior of their parents in coastal areas of Pondicherry. Indian Journal of Public Health Research and Development 5 (4); 41.2014.
4. Rajashree S. Dhok and Subash B. Thakre, Chronic infection among under five in an urban slum in India. International Journal of Community Medicine and Public Health. 2016; 3(3): 700-704.
5. KM Athar Ansari, Z.Khan. Health profile of under five in rural areas of Aligrah. 2008. India.
6. Gupta K, Bansal D, Mathi P, Das. Developmental profile of children with crone deficiency anaemia and its changes after therapeutic crone supplementation. Indian Journal of Paediatri. 2010.
7. Health and Nutrition profile of children in Rural Kerala; A call for an action. Available from http:// mpraub.uni_muenchea.

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Effectiveness of Acupressure on Knee and Hip Joint Pain Management among Old Age Group

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ABSTRACT

Introduction: Acupressure points are the points on the skin sensitive to bioelectrical impulses in the body. Stimulating these points release endorphins, which are neurochemicals that relieve pain. Recent studies have shown that acupressure is effective for relieving variety of pains in different populations. Widely accepted in Japan, many Americans are unaware of the many benefits of manual acupressure. The most common types of pain affecting geriatrics are knee and hip joint pain. Many elderly people tend to dismiss joint pain and body aches as part of ageing and would rather self-medicate or quietly endure the pain. But untreated pain can become chronic and greatly diminish their quality of life.[1][2]

Aim: To assess the effectiveness of acupressure on knee and hip joint pain management among old age group residing at selected old age home in Pune city.

Materials and Methods: A quantitative evaluative pre-experimental research design was used. 30 old age people who met the inclusion criteria were recruited using purposive sampling technique. The tool was prepared to assess the level of pain and knee and hip functions before and after providing acupressure. Post assessment was done after 30 days.

Results: Findings revealed that before the application of acupressure 60% of the old age people had severe pain (Score 7-10) and 40% of them had moderate pain (Score 4-6) and in knee and hip function test 3.3% of the old age people had little to no knee problems (Score 17 or lower), 43.3% of them had mild knee problems (Score 18-29), 46.7% of them had Some problem or inhibited function (Score 30-42) and 6.7% of them had moderate problem (Score 43-53). After the application of acupressure 90% of them had moderate pain (Score 4-6) and 10% of them had mild pain (score 1-3) and in knee and hip function test 80% of them had mild knee problems (Score 18-29) and 20% of them had some problem or inhibited function (Score 30-42). Significant changes were also observed in the level of pain and knee and hip function test scores. Paired t-test was done for assessing the effect of acupressure on knee and hip joint pain among old age group. Average scores decreased after the therapy and therefore, the null hypothesis was rejected. Acupressure was found to be significantly effective in decreasing knee and hip joint pain among old age group. Association between knee and hip joint pain and function with selected demographic variables was assessed using Fisher's Exact test. None of the demographical variable have significant association with knee and hip joint pain and function.

Keywords: *Acupressure, knee and hip joint pain, old age group, a pre-experimental research.*

INTRODUCTION

Many elderly people tend to dismiss joint pain and body aches as part of ageing and would rather self-medicate or quietly endure the pain. But untreated pain can become chronic and greatly diminish their quality of life. Knee and hip joint pain are the most common in old age group. Acupressure is an effective therapy for providing relief in various chronic pains. Widely accepted in Japan, many Indians are unaware of the many benefits of manual acupressure.[3]

Acupressure is a traditional Chinese medicine bodywork technique which involves placing physical pressure, by hand, elbow, or with the aid of various devices, on different pressure points on the surface of the body (which may be far distant from the symptom, related by what is called the meridian system) to bring

about relief through greater balance and circulation of fluids (blood, lymph) and metabolic energies in the body.[4]

Acupressure points are the points under the skin sensitive to bioelectrical impulses in the body. Stimulating these points release endorphins, which are neurochemicals that relieve pain. Recent studies have shown that acupressure is effective for relieving variety of pains in different populations.[5]

Analgesics can cause variety of side effects. These side effects include allergic symptoms like hoarseness, swelling, difficulty breathing, hives, itching and rash. They may cause stomach upset, constipation, diarrhea, dizziness or headache.[6]

Physio-therapies are very costly and some types of physiotherapy like short wave diathermy can cause burn. Patients undergoing chest or another kinds of physical therapy may have an increased metabolic rate, heart rate, blood pressure, and oxygen consumption.[7]

Massage is also a costly procedure and there is an increased risk of sprain.[8]

Chronic pain encompasses complex array of sensory–discriminatory, motivational–affective, cognitive–evaluative. Because of this complexity both pharmacologic and non-pharmacologic approaches should be considered to treat the pain.[9]

Statement

'To assess the effectiveness of acupressure on knee and hip joint pain management among old age group residing at selected old age homes in Pune'

Objectives:

- To assess the degree of pain among old age group.
- To administer acupressure on pressure points among old age group.
- To assess the effectiveness of acupressure on knee and hip joint pain among old age group.
- To compare pre and post therapy scores.
- To associate the findings with demographic variables.

MATERIALS AND METHODS

The study was conducted in an old age home in Pune city on a target sample of old age group with chronic knee and hip joint pain. A quantitative research approach with one group pre-test pot-test design was adopted to assess the effect of acupressure on knee and hip joint pain among old age group. Purposive sampling technique was adopted with a total sample size of 30.

The tool consisted of,

Section I: Demographic data tool

Section II: Numerical pain scale

Section III: Knee/Hip/Both Pain and Function assessment scale

Sampling criteria:

Inclusion Criteria

- Old age people who are willing to participate in the study.
- Clients who are alert, conscious and co-operative.
- Who are having chronic knee and/or hip joints pain.
- Who are available during the time of data collection.

Exclusion criteria

- Old Age group who are not ambulatory/bed ridden.
- Old age group who have undergone with any surgery.
- Old age group who are having knee or hip fracture.

RESULTS

The collected data were analyzed, organized and presented under the following sections:-

Section I

Description of samples (old age group) based on their personal characteristics

Table 1: Description of samples (old age group) based on their personal characteristics in terms of frequency and percentages

N=30

Demographic variable	Freq	%
Age		
65-75 years	22	73.3%
76-85 years	5	16.7%
>86 years	3	10.0%

Gender		
Male	5	16.7%
Female	25	83.3%
Present Occupation		
Yes	1	3.3%
No	29	96.7%
Previous Occupation		
Yes	11	36.7%
No	19	63.3%
Religion		
Hindu	28	93.3%
Other	2	6.7%
Qualification		
Literate	28	93.3%
Illiterate	2	6.7%
Past medical history		
Yes	20	66.7%
No	10	33.3%
Present illness		
Knee pain	19	63.3%
Hip pain	3	10.0%
Both	8	26.7%
Site of pain		
Left	13	43.3%
Right	4	13.3%
Both	13	43.3%
Demographic variable	Freq	%
Duration of pain		
1 year	10	33.3%
> 1 year	20	66.7%
Past surgical history		
Yes	13	43.3%
No	17	56.7%
Present surgical history		
No	30	100.0%
Taking any kind of medicine		
Yes	23	76.7%
No	7	23.3%

Table 1 depicts 73.3% of the old age people had age 65-75 years, 16.7% of them had age 76-85 years and 10% of them had age above 85 years. 16.7% of them were males and 83.3% of them were females. 3.3% of them had present occupation and remaining 96.7 were not. 36.7% of them had previous occupation. Amongst them 93.3% of them were Hindu and 6.7% of them had some other religion. 93.3% of them were literate and 6.7% of them were illiterate. 66.7% of them had past medical history. 63.3% of them had knee pain, 10% of them had hip pain and 26.7% of them had knee and hip pain. 43.3% of them had pain in left, 13.3% of them had pain in right and 43.3% of them had pain in left and right. 33.3% of them had pain for up to one year and 66.7% of them had pain for more than a year. Amongst them 43.3% of them had past surgical history. 76.7% of them were taking medicine.

Section II

Analysis of data related to degree of pain among old age group

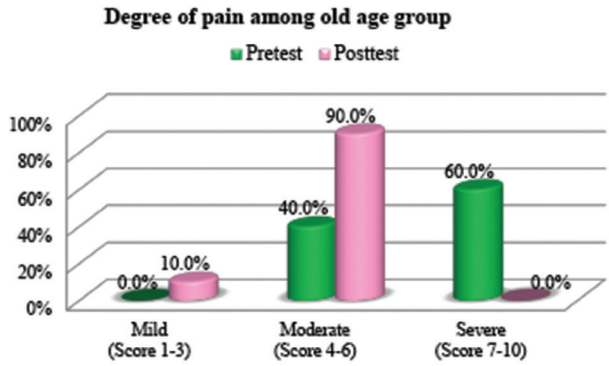

Figure 1: Column chart showing the mean comparison of degree of pain among before and after administering acupressure

In pretest (before administering acupressure), 60% of the old age people had severe pain (Score 7-10) and 40% of them had moderate pain (Score 4-6). After administering acupressure 90% of the old age people had moderate pain (Score 4-6) and 10% of them had mild pain (1-3).

Table 2: Knee/Hip/Both Pain and Function among old age group

N=30

Knee/Hip/Both Pain and Function	Pretest	
	Freq	%
Little to no knee problems (Score 17 or lower)	1	3.3%
Mild (Score 18 to 29)	13	43.3%
Some problem or inhibited function (Score 30 to 42)	14	46.7%
Moderate problem (Score 43 to 53)	2	6.7%

In pretest, 3.3% of the old age people had little to no knee problems (Score 17 or lower), 43.3% of them had mild knee problems (Score 18-29), 46.7% of them had Some problem or inhibited function (Score 30-42) and 6.7% of them had moderate problem (Score 43-53).

Section III

Analysis of data related to effectiveness of acupressure on knee and hip joint pain among old age group

Table 3: Effectiveness of acupressure on knee and hip joint pain among old age group

N=30

Degree of pain	Pretest		Posttest	
	Freq	%	Freq	%
Mild (Score 1-3)	0	0.0%	3	10.0%
Moderate (Score 4-6)	12	40.0%	27	90.0%
Severe (Score 7-10)	18	60.0%	0	0.0%

In pretest, 60% of the old age people had severe pain (Score 7-10) and 40% of them had moderate pain (Score 4-6). In posttest, 90% of them had moderate pain (Score 4-6) and 10% of them had mild pain (score 1-3). This indicates that the knee and hip joint pain among old age group improved remarkably after acupressure.

Paired t-test for effectiveness of acupressure on knee and hip joint pain among old age group

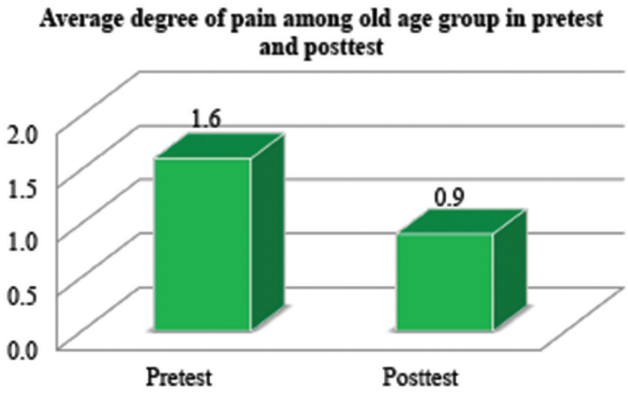

Figure 2: 3-d Bar graph showing the Mean comparison of average degree of pain among old age group pre and post therapy

Researcher applied paired t-test for effectiveness of acupressure on knee and hip joint pain among old age group. Average pain score in pretest was 1.6 which reduced to 0.9 in posttest. T-value for this test was 7.2 with 29 degrees of freedom. Corresponding p-value was small (less than 0.05), null hypothesis is rejected. Acupressure was proved to be significantly effective in improving the knee and hip joint pain among old age group.

Table 4: Effectiveness of acupressure on Knee/Hip/ Both Pain and Function among old age group

N=30

Knee/Hip/Both Pain and Function	Pretest		Posttest	
	Freq	%	Freq	%
Little to no knee problems (Score 17 or lower)	1	3.3%	0	0.0%
Mild (Score 18 to 29)	13	43.3%	24	80.0%
Some problem or inhibited function (Score 30 to 42)	14	46.7%	6	20.0%
Moderate problem (Score 43 to 53)	2	6.7%	0	0.0%

In pretest, 3.3% of the old age people had little to no knee problems (Score 17 or lower), 43.3% of them had mild knee problems (Score 18-29), 46.7% of them had some problem or inhibited function (Score 30-42) and 6.7% of them had moderate problem (Score 43-53). In posttest, 80% of them had mild knee problems (Score 18-29) and 20% of them had some problem or inhibited function (Score 30-42). This indicates that the Knee/ Hip/Both Pain and Function among the old age group improved remarkably after acupressure.

Paired t-test for effectiveness of acupressure on knee and hip joint function among old age group

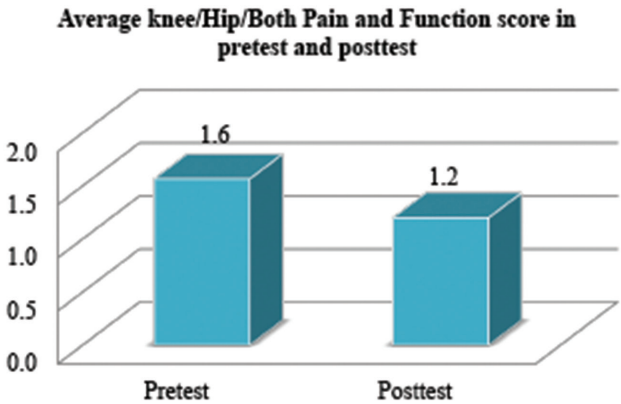

Figure 3:- 3-d Bar graph showing the Mean comparison of average knee/hip/both function among old age group pre and post therapy

Researcher applied paired t-test for effectiveness of acupressure on knee and hip joint function among old age group. Average pain score in pretest was 1.6 which reduced to 1.2 in posttest. T-value for this test was 3.6 with 29 degrees of freedom. Corresponding p-value was small

(less than 0.05), null hypothesis is rejected. Acupressure was proved to be significantly effective in improving the knee and hip joint function among old age group.

Section IV

Analysis of data related to the association of demographic variables with knee and hip joint pain

Table 5: Fisher's exact test for association of demographic variables with knee and hip joint pain N=30

Demographic variable		Pain		p-value
		Moderate	Mild	
Age	65-75 years	8	14	0.715
	76-85 years	3	2	
	>86 years	1	2	
Gender	Male	2	3	1.000
	Female	10	15	
Present Occupation	No	12	17	1.000
	Yes	0	1	
Previous Occupation	No	7	12	0.712
	Yes	5	6	
Religion	Other	1	1	1.000
	Hindu	11	17	
Qualification	Illiterate	0	2	0.503
	Literate	12	16	
Past medical history	No	3	7	0.694
	Yes	9	11	
Present illness	Knee and Hip pain	3	5	0.731
	Hip pain	2	1	
	Knee pain	7	12	
Site of pain	Left	6	7	0.681
	Right	2	2	
	Both	4	9	
Duration of pain	> 1 year	8	12	1.000
	1 year	4	6	
Past surgical history	No	5	12	0.264
	Yes	7	6	
Taking any kind of medicine	No	1	6	0.193
	Yes	11	12	

Researcher applied Fisher's exact test for association of demographic variables with knee and hip joint pain. Since all the p-values were greater than 0.05, none of the demographic was found to have significant association with the degree of pain among old age people.

Table 6: Fisher's exact test for association of demographic variables with knee and hip joint function N=30

Demographic variable		Knee/Hip/Both Pain and Function				p-value
		Little to no knee problems	Mild	Inhibited function	Moderate	
Age	65-75 years	0	9	12	1	0.255
	76-85 years	1	2	1	1	
	>86 years	0	2	1	0	
Gender	Male	0	1	4	0	0.519
	Female	1	12	10	2	
Present Occupation	No	1	12	14	2	0.533
	Yes	0	1	0	0	
Previous Occupation	No	0	10	8	1	0.364
	Yes	1	3	6	1	
Religion	Other	0	1	0	1	0.129
	Hindu	1	12	14	1	
Qualification	Illiterate	0	0	2	0	0.582
	Literate	1	13	12	2	
Past medical history	No	1	5	3	1	0.297
	Yes	0	8	11	1	

Present illness	Knee and Hip pain	1	2	5	0	0.537
	Hip pain	0	2	1	0	
	Knee pain	0	9	8	2	
Site of pain	Left	0	5	8	0	0.434
	Right	0	3	1	0	
	Both	1	5	5	2	
Duration of pain	> 1 year	1	9	10	0	0.237
	1 year	0	4	4	2	
Past surgical history	No	0	8	8	1	0.840
	Yes	1	5	6	1	
Taking any kind of medicine	No	0	3	3	1	0.732
	Yes	1	10	11	1	

Researcher applied Fisher's exact test for association of demographic variables with knee and hip joint function. Since all the p-values were greater than 0.05, none of the demographic was found to have significant association with Knee/Hip/Both Pain and Function among old age people.

DISCUSSION

This study was carried out to assess the effectiveness of acupressure on knee and hip joint pain among old age group. Since the p-value was small (< 0.05) the findings led to the acceptance of the hypothesis that there was a significant decrease in knee and hip joint pain and improvement in knee/hip/both joints function.

Similar results have also been reported in other studies which are in line with the results of this research. The results showed that acupressure provides relief in different types of pain in different age groups. Acupressure is a form of touch therapy that utilizes the principles of acupuncture and Chinese medicine. In acupressure, the same points on the body are used as in acupuncture, but are stimulated with finger pressure instead of with the insertion of needles. Acupressure is used to relieve variety of symptoms and pain.

A study was conducted on the effectiveness of acupressure on relieving pain in the year 2012. Type of study is a systematic review. This study was done by Chen and Wang , Kaohsiung Medical University College of Nursing, Kaohsiung, Taiwan; I-Shou University Department of Nursing, Kaohsiung, Taiwan. Fifteen studies were extracted which were published during January 1, 1996 to December 31, 2011 for reducing dysmenorrhea (menstrual distress), labor pain, low back pain, chronic headache, and other traumatic pain. Acupressure has been shown to be effective for relieving a variety of pains in different populations.[10]

CONCLUSION

Finally, the results showed that the acupressure is effective in reducing chronic knee and hip joint pain among old age group. Accordingly, to decrease mild to moderate pain among old age group acupressure is the best therapy to be given as it has least side effects as compared to allopathic medications. This will improve the client's condition as well as helps in building good inter-personnel relationship.

Conflict of Interest: The author does not have any conflict of interest.

Ethical Clearance: Taken from Symbiosis Research Ethical Committee.

Source of funding: Self

REFERENCES

1. American Osteopathic Association, in the journal Evidence-Based Complementary and Alternative Medicine Available at URL: http://www.toyourhealth.com/mpacms/tyh/article.php?id=1627
2. Pain Association of Singapore, common types of aches and pains, Available at URL: www.healthxchange.sg
3. Journal of Traditional and Complementary Medicine, Contemporary acupressure therapy:

Adroit cure for painless recovery of therapeutic ailments, Volume 7, Issue 2, April 2017, Pages 251–263, Available at URL: http://www.sciencedirect.com/science/article/pii/S222541101630044X

4. Acupressure, Online Etymology Dictionary, Available at URL: https://en.wikipedia.org/wiki/Acupressure
5. Michael Reed Gach, PhD, Acupressure's Potent Points: A Guide to Self-Care for Common Ailments, Part I: Introduction to acupressure: Its origin, uses and guidelines.
6. Chris Pasero, Margo McCaffery, Pain Assessment and Pharmacologic Management, Elsevier Health Sciences, 03-Jul-2010
7. Guidelines For Limiting Radiofrequency Exposure - Short Wave Diathermy, side effects of diathermy, Available at URL: http://www.hc-sc.gc.ca/ewh-semt/pubs/radiation/83ehd-dhm98/index-eng.php
8. Cost of massage, Available at URL: http://health.costhelper.com/massage.html
9. Pain management in the elderly at the end of life, Available at URL: https://www.ncbi.nlm.nih.gov/m/pubmed/22171240/
10. Chen and Wang , Kaohsiung, effectiveness of acupressure on relieving pain, 2012, Available at URL: www.ncbi.nlm.nih.gov/pubmed/23415783

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Communication Barrier in Health Care Setting as Perceived by Nurses and Patient

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ABSTRACT

Patient satisfaction in high quality of services is depends on the communication between the health care professional and client. How the IPR is build by the health care providers with the clients admitted in the hospital is strongly affects the client's recovery. Keeping this point in mind a Cross sectional, descriptive study was conducted on 50 nurses and 50 patients in two hospitals affiliated to NABH in Pune (Maharashtra) in 2016. Data were collected by using 2 separate questionnaires for nurses and patients. The reliability of the tool was assessed by split half method and validity was assessed by the opinion of experts in the field of nursing. The tool was divided into 3 categories client related factors, nurses related factors and common factors between nurses and client. In both groups of nurses and client (mean scores of 2.45 and 2.18, respectively) and common factors between nurses and patients (mean scores of 1.87 and 1.90, respectively) were considered the most and least significant factors. Also, patient-related (p=0.001), nurse-related (p=0.012), and environmental factors (p=0.019) were found to be most significant. Some barriers were also observed during the study like, language barrier, environmental barrier, cultural barriers, overload of work schedule of nurses etc. which affects the nursing care services. These barriers can be overcome by raising the awareness of nurses and patients along with creating a desirable environment. We recommend that nurses be effectively trained in communication skills and be encouraged by constant monitoring of the obtained skills.

Keywords: *communication, barrier, nurse, patient*

INTRODUCTION

Communication and IPR are considered to be multi-dimensional, multi-factorial and a dynamic, complex process, closely related to the environment in which an individual's experiences are shared. Since 19th century until today, health care providers and nurses have put their great efforts to optimize the communication and interaction strategies in nursing[11]. Effective communication is an important aspect of patient care, which not only improves nurse-patient relationship but also has a profound effect on the client's perceptions of health care quality and treatment outcomes[16]. Effective communication between nurses and patients is the key element in providing high-quality nursing care and results in patient satisfaction[8]. Health care providers with effective communication skills with patient can have positive outcomes including minimize patient's anxiety, guilt, pain, and overall recovery[11]. Effective communication skills can increase patient satisfaction, acceptance, compliance and cooperation with the medical team and improve physiological and functional status of the patient[1].

However, most studies have reported poor nurse-patient relationships and poor personal satisfaction[17, 15] because poor communication skills between nurse-patient affect the quality care and patient satisfaction. The results of previous studies have shown that nurses have been trained to establish an effective communication in health care settings and they do not use these skills to interact with their patients in clinical environments[13]. Similarly, the results of other studies have shown that nursing personals have not put their effort for establishing positive interactions with the patients[7]. Communication gaps are 5-15% in general population and more than 20% in hospital settings[6]. Hospitalized patients in all ages experience mobility, sensory, cognitive needs as well as language barriers in communication with nurses and other health care personals during their stay[10]. Effective communication and talk with nurses minimizes stressful and unpleasant hospital experiences for patients and

their families. Also, through communication, nurses can provide high quality of health care services and become familiar with the needs of their patients[8]. Patients with communication disability were three times more likely to experience medical or clinical complications compared to other patients[6].

OBJECTIVES

1. To assess the barriers in communication between nurses and patient.
2. To find out the association between barriers related factors with the Sociodemographical variables of health care professionals.

MATERIAL AND METHOD

Study Design

Cross sectional, descriptive study.

Setting and subjects

This study was conducted on nurses and patients of two private hospitals affiliated to NABH in Pune, Maharashtra.

Sampling

Simple random sampling method was used.

Tool

Data were collected through two separate questionnaires for nurses and patients. The reliability of the tool was assessed by split half method and validity was assessed by the opinion of experts in the field of nursing. Content validity was approved by experts from nursing field from 2 different Nursing colleges and Hospital (MH Kirkee, AFMC, Pune, data from nurses only) of Pune. Pearson's correlation coefficient between the two halves was calculated and reliability of patient (r'=0.74) and nurse (r'=0.80) were obtained and hence the tool were found to be reliable. The questionnaires consisted of two sections. The first part included demographic questions and the second part was concerned with the present barriers to nurses' use of communication skills. The nurse questionnaire contained 44 items and patient questionnaire consisted of 30 items each item included 5 options: none, little, average, high, and not included. The subject has to choose one of the options with regard to the importance of each barrier. The barriers were divided to four categories: common barriers between patient and nurse, nurse-related barriers, patient-related barriers and environmental barriers.

Data Collection

After obtaining the consent from nurses and patients in the two hospitals, the data were collected. In order to collect the data, the investigator visited regularly in the wards during different shifts. The questionnaires were given to the patients and nurses, after completion, the questionnaires were collected by the researchers. The nurses from medical, surgical, ICU/CCU and emergency wards were selected by random sampling for the data collection. The sample size was calculated by power analysis. The questionnaire was given to the patient after explaining the objectives of the study and after obtaining an informed consent. The patient sample was randomly selected from medical, surgical, and emergency wards.

Statistical Analysis

For data analysis, descriptive (mean, mean percentage, SD) and inferential statistics (Binomial, Mann-Whitney, and Friedman tests) were used and SPSS version 16 was utilized. P-value less than or equal to 0.05 was considered statistically significant.

RESULTS

Demographic Characteristics

According to the results, the mean age of the nurses was 30.2 yrs, and the mean working experience was 7.0 yrs. The mean age of the patients was 28.30 yrs and the mean of hospitalization days was 2.3 days. Tables 1 and 2 show the demographic characteristics of the subjects.

PART I-Demographic characteristics of nurses N= 50

Variables		N (%)
Gender	Male	03 (6)
	Female	47 (94)
Marital status	Single	21 (42)
	Married	26 (52)
	Divorce	03 (6)
Education level	GMN	45 (90)
	Bachelor	04 (8)
	MSc	01 (2)
Work shift	Morning	10 (20)
	Evening	06 (12)
	Night	04 (8)
	Circulating	30 (60)
Ward	Medical	20 (40)
	Surgical	15 (30)
	ICU/CCU/ Other	5 (10)
	Emergency	10 (20)

Overtime work	Yes	00
	No	50 (100)
Knowledge of communication skills	Yes	46 (92)
	No	4 (8)
Training of communication skills	Yes	00
	No	50 (100)

PART II-Demographic characteristics of patients N=50

Variables		N (%)
Gender	Male	30 (60)
	Female	20 (40)
Marital status	Single	04 (8)
	Married	46 (92)
	Others	00
Education	Primary	10 (20)
	Secondary	12 (24)
	Graduate	15 (30)
	Others	13 (26)
Hospitalized ward	Medical	26 (52)
	Surgical	20 (40)
	Others	04 (8)

PART III-Compare the Nurses and Patients' Viewpoint

Regarding patient-related factors (P=0.001), nurse-related factors (P=0.013) and environmental factors (P=0.015), there was a significant difference between the mean scores of nurses and patients (Table III).

Barriers	Nurse group	Patient group	P-value (Mann – Whitney test)
Factors common between nurse and patient	1830.54	1.940.62	0.19
Nurse related factors	2.350.44	2.050.61	0.012*
Patient related factors	2.200.48	1.960.54	0.001**
Environmental factors	2.210.43	2.180.64	0.019*

*P≤0.05 was considered statistically significant.

PART IV- Comparison of barriers from the viewpoint of nurses and patients

According to the data obtained from Man Whitney Test, comparison of patients and nurses mean scores of barriers (to using communication skills by nurses) indicated that of 30 items common between nurse and patient questionnaires, the mean scores of 13 items were significantly different (Table V)

Categories of barriers	Barriers	M±SD		P-value (Man Whitney)
		Nurses	Patient	
Factors common between nurses and patients	Age differences between nurse and patient	1.31±0.85	1.96±0.88	0.001*
	Gender differences between nurse and Patient	1.91±1.1	2.1±1.1	0.045*
	Cultural differences between nurse and patient	2.29±0.81	2.0±0.99	0.638
	Religious differences between nurse and Patient	1.46±0.87	1.59±1.15	0.601
	language differences between nurse and patient	2.34±0.67	2.01±0.96	0.060
Nurse-related factors	Apathy of the nurse towards his/her profession	2.4±0.64	2.33±1.02	0.394
	Nurse's lack of knowledge regarding communication skills	2.24±0.71	2.27±0.86	0.508
	Nurse's low self-esteem	2.36±0.84	1.96±1.04	0.024*
	Negative attitude of the nurse towards the Patient	2.26±0.91	2.16±1.12	0.834

	Nurse's lack of communication with the Patient	2.41±0.85	2.49±0.88	0.451
	Nurse's insufficient knowledge about the needs and status of the patient	2.27±0.92	2.44±0.93	0.170
	Nurse's unpleasant experiences of previous encounters with patients	2.26±0.75	1.67±1.02	0.003*
	Relationship between other health care team members and the nurse	2.14±0.76	2.01±0.88	0.306
	Shortage of nurses	2.67±0.68	2.30±0.90	0.019*
	Being overworked during the shift	2.71±0.52	2.36±0.92	0.056
	Lack of enough time	2.63±0.63	2.05±1.06	0.001*
	Working multiple jobs and fatigue	2.44±0.75	2.06±1.14	0.105
	Poor economic status of the nurse	2.38±0.77	1.51±1.23	0.000*
Patient-related factors	Patient's unawareness of the status and duties of the nurse	2.31±0.74	1.91±0.94	0.025*
	Negative attitude of the patient toward the Nurse	2.25±0.78	1.91±0.91	0.023*
	Resistance and reluctance of the patient to Communicate	2.27±0.62	1.64±1.12	0.044
	Patient's lack of focus	2.27±0.67	2.01±0.92	0.154
	Anxiety, pain, and physical discomfort of the patient	2.31±0.72	2.31±0.88	0.578
	Family' interference	2.38±0.68	1.91±1.12	0.026*
	Patient's companions	2.07±0.72	2.01±1.03	0.209
Environmental factors	Unfamiliar environment of the hospital for the patient	2.04±0.75	1.78±1.07	0.284
	Busy environment of the ward	2.58±0.61	2.22±0.95	0.070
	Unsuitable environmental conditions (Improper ventilation, heating, cooling, and lighting)	2.49±0.73	1.97±1.11	0.020*
	Critically ill patients in the ward	2.78±0.48	2.17±0.99	0.000*

*P≤0.05 was considered statistically significant.

Table 4: Comparison of the mean scores of barriers to communication skills by nurses in interacting with patients from the viewpoint of nurses and patients

DISCUSSION

The results of this study showed that the nurse-related factors and common factors between nurses and patients are the most and the least important barriers in health care settings. These results were consistent with the findings of Aghabarari et al., who did a study to assess the barriers to communication skills by nurses, from the viewpoint of nurses and patients[1] and nurse and patient related barriers were more important than environmental barriers[2]. Language and cultural and gender differences were the important factors that affects the communication between nurse and patient. Through establishing an appropriate verbal communication, the nurse could thoroughly understand the patient's problems, hence, in many studies; the nurse's unfamiliarity with the patient's colloquial language has been mentioned as a communication barrier[4]. It was observed that due to difference in spoken language, effective communication cannot be established even cultural differences also showed some kind of communication gap. Previous studies showed

that nurses need training for effective communication. An effective knowledge of nurses regarding patients' culture, language, customs, and beliefs can help them communicate with the patients without having any pre-judgments or prejudice. However culture can act as both a facilitator and a barrier to communication[20].

CONCLUSION

The purpose of health care system is to provide quality services and communication is a best way to gain patients' satisfaction. Thus, according to the results of this study and previous studies, the following measures will be considerably helpful in establishing an effective nurse-patient communication: allocation of work to nurses with regard to the language and culture of the region, motivating nurses to maintain good IPR with patient, encourage on communication skills workshops, upgrading medical clinics and facilities, holding nursing quality assurance committees, and most importantly, changing attitudes of nursing managers and administrators.

Conflict of interest: None

Ethical clearance: Permission to conduct the study was obtained verbally from the management of hospital. Privacy and confidentiality of the subject information was considered and maintained.

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REFERENCES

1. Aghabarari, M., Mohammadi, I., & Varvani-Farahani, A. (2009). Barriers to Application of Communication Skills by Nurses in Nurse-Patient Interaction. Nurses and Patients' Perspective. Iranian Journal of Nursing, 22(16), 19-31.
2. Aghamolaei, T., & Hasani, L. (2011). Communication barriers among nurses and elderly patients. Bimonthly Journal of Hormozgan University of Medical Sciences, 14(4), 312-318.
3. Ammentorp, J., Sabroe, S., Kofoed, P.-E., & Mainz, J. (2007). The effect of training in communication skills on medical doctors' and nurses' self-efficacy: A randomized controlled trial. Patient Education and Counseling, 66(3), 270-277. http://dx.doi.org/10.1016/j.pec.2006.12.012
4. Anoosheh, M., Zarkhah, S., Faghihzadeh, S., & Vaismoradi, M. (2009). Nurse-patient communication barriers in Iranian nursing. International Nursing Review, 56(2), 243-249. http://dx.doi.org/10.1111/j.1466-7657.2008.00697.x
5. Baraz, P. S., Shariati, A. A., Alijani, R. H., & Moein, M. S. (2010). Assessing barriers of nurse-patient's effective communication in educational hospitals of Ahwaz. Iranian Journal of Nursing Research, 5(16), 45-52.
6. Bartlett, G., Blais, R., Tamblyn, R., Clermont, R. J., & MacGibbon, B. (2008). Impact of patient communication problems on the risk of preventable adverse events in acute care settings. Canadian Medical Association Journal, 178(12), 1555-1562. http://dx.doi.org/10.1503/cmaj.070690
7. Bridges, J., Nicholson, C., Maben, J., Pope, C., Flatley, M., Wilkinson, C., ... Tziggili, M. (2013). Capacity for care: Meta-ethnography of acute care nurses' experiences of the nurse-patient relationship. Journal of Advanced Nursing, 69(4), 760-772. http://dx.doi.org/10.1111/jan.12050
8. Cossette, S., Cara, C., Ricard, N., & Pepin, J. (2005). Assessing nurse-patient interactions from a caring perspective: Report of the development and preliminary psychometric testing of the Caring Nurse-Patient Interactions Scale. International Journal of Nursing Studies, 42(6), 673-686. http://dx.doi.org/10.1016/ j.ijnurstu.2004.10.004
9. Del Pino, F. J. P., Soriano, E., & Higginbottom, G. M. (2013). Sociocultural and linguistic boundaries influencing intercultural communication between nurses and Moroccan patients in southern Spain: A focused ethnography. BMC Nursing, 12(1), 14. http://dx.doi.org/10.1186/1472-6955-12-14
10. Downey, D., & Happ, M. B. (2013). The Need for Nurse Training to Promote Improved Patient-Provider Communication for Patients with Complex Communication Needs. Perspectives on Augmentative and Alternative Communication, 22(2), 112-119. http://dx.doi.org/10.1044/aac22.2.112
11. Fleischer, S., Berg, A., Zimmermann, M., Wüste, K., & Behrens, J. (2009). Nurse-patient interaction and communication: A systematic literature review. Journal of Public Health, 17(5), 339-353. http://dx.doi.org/10.1007/s10389-008-0238-1

12. Gilmartin, J., & Wright, K. (2008). Day surgery: Patients' felt abandoned during the preoperative wait. Journal of Clinical Nursing, 17(18), 2418-2425. http://dx.doi.org/10.1111/j.1365-2702.2008.02374.x

13. Heaven, C., Clegg, J., & Maguire, P. (2006). Transfer of communication skills training from workshop to workplace: The impact of clinical supervision. Patient Education and Counseling, 60(3), 313-325. http://dx.doi.org/10.1016/j.pec.2005.08.008

14. Im, E.-O., Chee, W., Guevara, E., Lim, H.-J., Liu, Y., & Shin, H. (2008). Gender and ethnic differences in cancer patients' needs for help: An Internet survey. International Journal of Nursing Studies, 45(8), 1192-1204. http://dx.doi.org/10.1016/j.ijnurstu.2007.09.006

15. Jangland, E., Gunningberg, L., & Carlsson, M. (2009). Patients' and relatives' complaints about encounters and communication in health care: Evidence for quality improvement. Patient Education and Counseling, 75(2), 199 204. http://dx.doi.org/10.1016/j.pec.2008.10.007.

16. Li, H., Ang, E., & Hegney, D. (2012). Nurses' perceptions of the barriers in effective communicaton with impatient cancer adults in Singapore. Journal of Clinical Nursing, 21(17-18), 2647-2658. http://dx.doi.org/ 10.1111/j.1365-2702.2011.03977.x.

17. McCabe, C. (2004). Nurse-patient communication: An exploration of patients' experiences. Journal of Clinical Nursing, 13(1), 41-49. http://dx.doi.org/10.1111/j.1365-2702.2004.00817.x

18. Mendes, I. A. C., Trevizan, M., Nogueira, M., & Sawada, N. (1999). Humanizing nurse-patient communication: A challenge and a commitment. Medicine and Law, 18(1), 639-644.

19. Nayeri, N. D., Nazari, A. A., Salsali, M., & Ahmadi, F. (2005). Iranian staff nurses' views of their productivity and human resource factors improving and impeding it: A qualitative study. Human Resources for Health, 3(1), 9. http://dx.doi.org/10.1186/1478-4491-3-9

20. Okougha, M., & Tilki, M. (2010). Experience of overseas nurses: The potential for misunderstanding. British Journal of Nursing, 19(2), 102-106. http://dx.doi.org/10.12968/bjon.2010.19.2.46293

21. Park, E.-k., & Song, M. (2005). Communication barriers perceived by older patients and nurses. International Journal of Nursing Studies, 42(2), 159-166. http://dx.doi.org/10.1016/j.ijnurstu.2004.06.006

22. Rejeh, N., Heravi-Karimooi, M., & Vaismoradi, M. (2011). Iranian nursing students' perspectives regarding caring for elderly patients. Nursing & Health Sciences, 13(2), 118-125. http://dx.doi.org/10.1111/j. 1442-2018.2011.00588.x.

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Effectiveness of Social Skills Intervention in Attention Deficit Hyperactivity Disorder- A Nursing Review

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ABSTRACT

Attention Deficit Hyperactivity Disorder (ADHD) is a prevalent emotional and behavioral disorder that can affect the scholastic and social functioning of school-age children. ADHD is characterized by developmentally inappropriate inattention, impulsiveness and motor activity. The behaviors that cause social impairments may in at least some children are a direct consequence of the defining symptoms of ADHD. The objective was to gain knowledge on the various intervention methods in different aspects of social skills and to study their outcomes. This article presents the review of literature relating to the studies carried out by various researchers in the area of social skills in attention deficit hyperactivity disorder.

Keywords: social skills, attention deficit hyperactivity disorder, social skills intervention

INTRODUCTION

Approximately 11% of children 4-17 years of age (6.4 million) have been diagnosed with ADHD as of 2011. The percentage of children with an ADHD diagnosis continues to increase, from 7.8% in 2003 to 9.5% in 2007 and to 11.0% in 2011[1].ADHD is associated with impairments of functioning in cognitive, academic, familial, and eventually occupational domains of daily life (Barkley, 2003).[2] Children with attention-deficit/hyperactivity disorder (ADHD) often encounter problems in social interactions with peers and are confronted with peer rejection and social isolation. The importance of successful communication is extremely apparent in an educational setting. Students must be able to interact successfully with teachers, and especially with their peers.

Social skills are complicated, observable behaviors that include problem-solving skills. Social skills also involve detailed verbal (speech, words, sentences) and nonverbal (posture, eye contact, voice, facial expressions) behaviors. Social skills allow children to experience positive experiences in social situations (L.K. Elksnin, 1996; cited in Elksnin & Elksnin, 1998).[3] In this context it is understood that emphasis must be placed on the need for social skills treatment for children with ADHD. Thus in order to get efficient outcomes, the focus is placed on social skills intervention in this regard.

Title of the review

Effectiveness of social skills intervention on social skills among children with attention deficit hyperactivity disorder- A Nursing review

Aim of the review

Aim of the review was to identify the evidence on the effectiveness of social skills intervention on social skills among children with ADHD

Objectives of the review

- To review the related studies and other articles regarding the effectiveness of social skills intervention on social skills among children with ADHD
- To understand the evidence of effectiveness of the effectiveness of social skills intervention on social skills among children with ADHD

MATERIALS & METHODS

Quantitative method and descriptive approach was used for this review. After identifying the need for the particular review, eligibility criteria for the papers to be reviewed was prepared, according to which the review was carried out by using different search strategies by adopting the interfaces and databases. The collected papers were checked for clarity and then used for the review.

Eligibility criteria

The review was done to identify the articles that explicitly describe the effectiveness of social skills intervention on social skills among children with ADHD

Inclusion criteria

- Studies related to the effectiveness of social skills intervention on social skills among children with ADHD
- Literature published in English knowledge
- Literature published from the year 2000-2016

Exclusion criteria

- Studies with insufficient data such as inadequate information on the research methodology
- Studies related to the effectiveness of social skills intervention on other than social skills and ADHD

Literature search strategies and data source

To gain an understanding regarding the efficacy of Social Skills Intervention for children with ADHD, the author performed a systematic search of literature mainly from electronic databases The literature obtained from the data bases were searched from MEDLINE, Pubmed, EBSCO Host, PsycINFO, Science Direct, Wiley Online Library, CINAHL , Google Scholar. The review was restricted to 2001-2016. Reviews were mainly collected with the help of Boolean/ phrase search by using the following terms identified from the title, abstract or keywords;

- social skills and ADHD
- social skills interventions
- attention deficit hyperactivity disorder

Data extraction and quality assessment

The extracted data were assessed based on the eligibility criteria. The experimental studies were evaluated based on the relevance, appropriateness, clarity and methodology. From the comprehensive search results, the author screened the specific and relevant material on the topic. In total, 61 studies including three nursing studies were considered as relevant for the efficacy of social skills interventions in children with ADHD. While considering the inclusion and exclusion criteria of this review, a study of other core psychiatric disciplines10 and 3 nursing studies were reviewed, 48 were excluded as they didn't meet the inclusion criteria.

Data analysis

The data analysis comprised of three stages;

- Developing a preliminary synthesis of studies
- Exploring the studies based on the various objectives
- Summarizing the findings

For each included paper, the following data were extracted and tabulated

- Author, year of publication, methodology, instruments/ techniques, sample size, setting, tool utilized and major findings

Table 1: included studies regarding effectiveness of social skills intervention in children with Attention Deficit Hyperactivity Disorder

S.No	Author & year	Title	Study design	Sample size	Setting	Tool	Major findings
1.	Antshel, K.M. and Remer, R (2003)[4]	Social skills training in children with attention deficit hyperactivity disorder: A randomized-controlled clinical trial	randomized controlled trials (RCT)	120 children aged 8 to 12 with (ADHD-I; n = 59) or Combined type (n = 61).	child outpatient clinic	Social Skills Rating System. DSM IV	Children with ADHD-I improved in assertion skills more than children with ADHD-C, yet the 2 diagnostic entities did not differ in improvement levels across other social skills.
2.	Chang, C.C., Tsou, K.S., Shen, W.W., Wong, C.C. and Chao, C.C(2004)[5]	A social skills training program for preschool children with attention-deficit/ hyperactivity disorder.	Case control	8 boys with ADHD (aged 4 to 6 years) and their parents.	Local clinic	Diagnosed ADHD children Child Behavior Checklist	Eight weekly training sessions were conducted. After the training, most parents (75%) reported improvements in their children's behaviors.

3.	Fenstermacher, K., Olympia, D. and Sheridan, S.M (2006)[6]	Effectiveness of a computer-facilitated interactive social skills training program for boys with attention deficit hyperactivity disorder.	multiple-baseline design (MBD)	four males Grades 4 through 7, age from 10 to 13.	two local school districts	Conners' Rating Scales, Child Behavior Checklist Social skills rating system	All participants demonstrated improvements in ability to demonstrate effective social problem-solving skills in analogue role-play assessments with live peers.
4.	Gol, D. and Jarus, T (2005)[7]	Effect of a social skills training group on everyday activities of children with attention deficit–hyperactivity disorder	randomized controlled trials (RCT)	Twenty-seven children with ADHD age range 5 to 8yrs	Child and Family Developmental Center	Assessment of Motor and Process Skills	Children with ADHD initially achieved significantly lower scores on the AMPS in all process skills ($p<0.001$) and in the coordination motor subtest ($p<0.005$) than without ADHD.
5.	Gresham, F.M., Van, M.B. and Cook, C.R (2006)[8]	Social Skills Training for Teaching Replacement Behaviors: Remediating Acquisition Deficits in At-Risk Students	4 ABAB designs (1 design for each of the 4 Participants).	The four participants were 6 and8 years	Schools	Social Skills Rating System-Teacher	Students receiving intense social skills instruction showed rather large decreases in competing problem behaviors problem behaviors.
6.	Hughes, J.N., Im, M.H. and Wehrly, S.E (2014)[9]	Effect of Peer Nominations of Teacher-Student Support at Individual and Classroom Levels on Social and Academic Outcomes	randomized controlled trials (RCT)	Participants were 713 third- and fourth-grade children	three school districts (1 urban and 2 small city)	students' behavioral engagement in the classroom -questionnaire	Findings highlight the importance of peers' perceptions of teacher support and of the structure of those perceptions for children's social and academic outcomes.
7.	Jijina, P. and Sinha, U.K (2016)[10]	Parent assisted Social skills training for children with ADHD	Quasi experimental design	10 children8-12 years	Clinical Psychology Department	Spence's Social Skills Questionnaire-Parents	Post Training scores were significantly higher suggesting the positive short-term effect training.
8.	Pfiffner, L.J., Mikami, A.Y., Huang-Pollock, C., Easterlin, B., Zalecki, C. and McBurnett, K.(2007)[11]	A randomized, controlled trial of integrated home-school behavioral treatment for ADHD, predominantly inattentive type.	randomized controlled trials (RCT)	Sixty-nine children ages 7 to 11 years	schools	DSM-IV diagnosis of ADHD-I, Social Skills Rating System	Children had significantly fewer inattention and sluggish cognitive tempo symptoms, and improved social and organizational skills, relative to the control group.
9.	Sonuga-Barke, E.J., Daley, D., Thompson, M., Laver-Bradbury, C. and Weeks, A (2001)[12]	Parent-Based Therapies for Preschool Attention-Deficit/ Hyperactivity Disorder: A Randomized, Controlled Trial With a Community Sample	Randomised clinical trial	Three-year-old children displaying a preschool equivalent of ADHD (n = 78)	Home setting	ADHD/ Hyperkinesis scale Werry-Weiss-Peters Activity Scale Parental Account of Childhood Symptoms	Fifty-three percent of children in parent training group displayed clinically significant improvement

10.	Storebø, O.J., Pedersen, J., Skoog, M., Thomsen, P.H., Winkel, P., Gluud, C. and Simonsen, E(2011)[13]	Randomized social-skills training and parental training plus standard treatment versus standard treatment of children with attention deficit hyperactivity disorder	randomized two-armed, parallel group, assessor-blinded trial	52 children after sample size calculation aged 8-12 Years	Primary care setting	Conners 3rd Edition	social-skills training with medication have a greater general effect on ADHD symptoms and social and emotional competencies than medication alone
11.	Tutty, S., Gephart, H. and Wurzbacher, K. (2003)[14]	Enhancing behavioral and social skill functioning in children newly diagnosed with attention-deficit hyperactivity disorder in a pediatric setting.	randomized controlled trials (RCT)	100 children, aged 5 to 12 years (IG: n = 59) or control group (CG: n = 41).	primary care setting	DuPaul's ADHD Parent Rating Scale Social Skills Rating System	Intervention Group exhibited significantly lower parent-rated ADHD symptoms, whereas Intervention Group parents reported significantly better and more consistent discipline practices than Control Group
12.	VS, S., Varghese Paul, K., DIM, D. and Vinayan, K.P (2014)[15]	Effect of social skill group training in children with Attention Deficit Hyperactivity Disorder	Quasi experimental design	31 children between ages 7 and 10 years (average age = 8 years, SD = 1.16)	Clinical Psychology Department from the Pediatric Neurology Division,	The SWAN rating Scale for ADHD Strength and Difficulties questionnaire	The post intervention assessment showed greater improvement in areas of emotional problems, peer relations, conduct problems and pro-social behavior.
13.	Wilkes, S., Cordier, R., Bundy, A., Docking, K. and Munro, N (2011)[16]	A play-based intervention for children with ADHD: A pilot study	randomized two-armed, parallel group, assessor-blinded trial	children 5-11 years (n=14/group) &parents of children	local pediatric services and primary schools	Child Behavior Checklist Conners' Rating Scales.	Results demonstrated a large effect in improving the social play of children with ADHD (d=1.5) and their playmates (d=1.3).

ADHD-Attention deficit Hyperactivity Disorder, RCT- Randomized control trial, SST-Social skills training, DSM- Diagnostic Statistical Manual

RESULTS

Baseline data

All the studies included in the review were published in the time period 2000-2016, and the methodology utilized was randomized control trial in most of the studies (7 out of 13), one was randomized two-armed, parallel group, assessor-blinded trial and 2 were case control studies, 2 were quasi experimental studies was quasi experimental and one utilized multiple-baseline design (MBD).

Participants were recruited from a range of settings, including hospitals (one out of 13), clinics (3/13), schools (4/13), primary care centre (2/13) family development centre and home (1/13). Subjects of the study were mostly children with Attention deficit hyperactivity disorder in general, one study selected samples with combined and inattentive type (1/13). Majority of the subjects were diagnosed by conners ADHD tool, and the other tools were DSM IV criteria, ADHD hyperactivity scale, DuPaul's ADHD Parent Rating Scale and The SWAN rating Scale for ADHD. The tools utilized to assess the social skills were Social Skills Rating System by most of the studies, the other tools were child behavior check list, Assessment of Motor and Process Skills (AMPS), Werry-Weiss-Peters Activity Scale, Parental Account of Childhood Symptoms (PACS) Strength and Difficulties questionnaire (SDQ).Studies were done in various countries across the world with maximum number of studies in USA(n=6) followed by India(n=2)and the

other countries were China, Israel, Denmark, Australia and England. Sample size in all studies varied from 3-13 years with majority between 6-12 years old. In 10 studies the social skills intervention were given by psychologists and in 3studies by Nurses. The social skill intervention was by providing training with module in two studies, and the other interventions were token economy, play, creative methods, video modeling, activity, feedback and counseling

DISCUSSION

The systematic review was intended to understand the effectiveness of social skills intervention on social skills among children with attention deficit hyperactivity disorder. In this review, the author found a number of randomized control trials in support for the efficacy of social skills intervention for children with ADHD especially in published literature of other core psychiatric disciplines. The findings in terms of a significant gain in the text knowledge and performance of targeted social skills are consistent with findings of reviews. The existing nursing studies that examined the efficacy of conversational and assertive skills training had consistently reported a significant improvement in the social skills of participants and their findings are consistent with findings of studies in other disciplines.

On the other hand, search results have indicated relatively limited studies in psychiatric nursing discipline. Most of these included nursing studies were small scale and quasi-experimental. However, the overall design of a study42 is appearing good as it had utilised multi-stage measurements, randomization and compared group.

LIMITATIONS

- Most of the studies were from foreign countries
- Dose response calculation was not done

CONCLUSION

Social skills intervention plays a pivotal role in the lives of ADHD children. Previous research work demonstrated the efficacy and usefulness of social skills interventions for children with ADHD. Therefore, these kind of interventions should be implemented in routine care combined with other elements of comprehensive care and treatment i.e. medication and other psychosocial therapies. Psychiatric / Mental health nurses may implement social skills intervention as a nursing intervention either independently or as a joint venture with other mental health care professionals. A structured social skills has a structured process with availability of social skills training module so it can be easily integrated to the nursing care same key steps process. In designing and implementing social skills intervention as a nursing intervention with small group of patients, the individual characteristics, impairments and needs should be taken into account. The nursing role as social skills trainer needs to be developed through facilitating short-term workshops.

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REFERENCE

1. Visser SN, Bitsko RH, Danielson ML, Perou R, Blumberg SJ. Increasing prevalence of parent-reported attention-deficit/hyperactivity disorder among children—United States, 2003 and 2007. Morbidity and Mortality Weekly Report. 2010 Nov 12; 59(44):1439-43.
2. Barkley RA, Fischer M, Smallish L, Fletcher K. Young adult follow-up of hyperactive children: antisocial activities and drug use. Journal of child psychology and psychiatry. 2004 Feb 1;45(2):195-211.
3. Elksnin LK, Elksnin N. Teaching social skills to students with learning and behavior problems. Intervention in school and Clinic. 1998 Jan;33(3):131-40.
4. Antshel KM, Remer R. Social skills training in children with attention deficit hyperactivity disorder: a randomized-controlled clinical trial. Journal of Clinical Child and Adolescent Psychology. 2003 Feb 1;32(1):153-65.
5. Chang CC, Tsou KS, Shen WW, Wong CC, Chao CC. .A social skills training program for preschool children with attention-deficit/hyperactivity disorder. Chang Gung Med J 2004 Dec;27(12):918-23

6. Fenstermacher K, Olympia D, Sheridan SM. Effectiveness of a computer-facilitated interactive social skills training program for boys with attention deficit hyperactivity disorder. School Psychology Quarterly. 2006;21(2):197.

7. Gol D, Jarus T. Effect of a social skills training group on everyday activities of children with attention-deficit-hyperactivity disorder. Developmental Medicine & Child Neurology. 2005 Aug 1; 47(8):539-45.

8. Gresham FM, Van MB, Cook CR. Social skills training for teaching replacement behaviors: Remediating acquisition deficits in at-risk students. Behavioral Disorders. 2006 Aug 1:363-77.

9. Hughes JN, Im MH, Wehrly SE. Effect of peer nominations of teacher–student support at individual and classroom levels on social and academic outcomes. Journal of school psychology. 2014 Jun 30; 52(3):309-22.

10. Jijina P, Sinha UK. Parent Assisted Social Skills Training for Children with Attention Deficit Hyperactivity Disorder. Journal of the Indian Academy of Applied Psychology. 2016 Jul 1;42(2):299.

11. Pfiffner LJ, Mikami AY, Huang-Pollock C, Easterlin B, Zalecki C, McBurnett K. A randomized, controlled trial of integrated home-school behavioral treatment for ADHD, predominantly inattentive type. Journal of the American Academy of Child & Adolescent Psychiatry. 2007 Aug 31; 46(8):1041-50.

12. Sonuga-Barke EJ, Daley D, Thompson M, Laver-Bradbury C, Weeks A. Parent-based therapies for preschool attention-deficit/hyperactivity disorder: a randomized, controlled trial with a community sample. Journal of the American Academy of Child & Adolescent Psychiatry. 2001 Apr 30; 40(4):402-8.

13. Ole Jakob Storebo et alRandomised.. social-skills training and parental training plus standard treatment versus standard treatment of children with attention deficit hyperactivity disorder - The SOSTRA trial protocol. Trials ·2011; 12:18

14. Tutty S, Gephart H, Wurzbacher K. Enhancing behavioral and social skill functioning in children newly diagnosed with attention-deficit hyperactivity disorder in a pediatric setting. Journal of Developmental & Behavioral Pediatrics. 2003 Feb 1;24(1):51-7.

15. Smitha V. S., Varghese Paul K, Dennis DIM, Vinayan K.P., 2014. Effect of social skill group training in children with Attention Deficit Hyperactivity Disorder. Amrita Journal of Medicine. 10(2): 1 – 44

16. Wilkes S, Cordier R, Bundy A, Docking K, Munro N. A play-based intervention for children with ADHD: A pilot study. Australian occupational therapy journal. 2011 Aug 1; 58(4):231-40.

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Study to Assess the Effectiveness of Structured Teaching Program Regarding Care of Mentally Retarded Children among the Mother's With Mentally Retarded

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ABSTRACT

Introduction: Mental retardation is very common developmental disability seen in children and adolescents throughout the world. The study was aimed to assess the knowledge and attitude of mother regarding care of MR children and to evaluate the effectiveness of planned teaching programme.

Material & Methods: The research design adopted for this study was true experimental design with evaluative the educative approach. The sample size was 60 mothers. In this, 30 mothers were randomly assigned for experimental group and 30 for control group. Self developed Questionnaire was used to measure the knowledge and attitude of the mothers of the mental retardated children.

Results: The experimental group knowledge and attitude mean score is significantly higher than the control group means score at the level of significance $p \leq 0.05$.

Conclusion: The knowledge and attitude of mother can be further improved by providing ongoing teaching and training programs.

Keywords: *Attitude, Knowledge, Mental retardation, Mothers.*

INTRODUCTION

Mental retardation refers to the most severe general lack of cognitive and problem solving skills. It is also known as cognitive developmental delay. The child presents with less learning capacity, poor maturation and inadequate social adjustment.[1]

According to the American association on mental deficiency (AAMD) which states that mental retardation refers to significantly sub average general intellectual functioning existing concurrent with deficits in adaptive behavior manifested during the developmental period (Grossman 1983). The adaptive behavior refers to the ability of the individual to meet expectations for personal independence and social responsibility relative to age and cultural group.The incidence of mental retardation has been estimated to be approximately 125,000 birth per years.[2]

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Small survey conducted which give the percentage of incidence of mental retardation ranging from 0.7 to 4% in India. The international year of the disabled in India indicated that approximately 3% of the population are mentally retarded.

Among these 3% are percent come under the severely retarded category from a child population about 6 million. It has been calculated that approximately 2 million children are mentally retarded which means 33% of the child popu lation are placed in mentally retarded category. It is that 80% all mental retardation is of mild or moderate category. They can be trainable and educable. Mothers of children with mental retardation face many stresses. Help the mothers to train and improve the skills of feeding, toileting and dressing and grooming to manage the child. For this reason this research done.[3]

Hence the Investigator being nurse felt the need to assess knowledge and attitude of mother regarding care of MR children to give planned teaching programme to solve this problems and able to take care of their child.

MATERIAL AND METHODS

The research design adopted for this study was true experimental design and research approach adopted for this was to evaluative the educative approach. The sample size was 60 mothers. In this, 30 mothers were selected for experimental group and 30 for control group by lottery method. Mothers were selected from Kongu Arivalayam Trust School for mentally retarded children at Erode. Self developed Questionnaire was used to measure the knowledge and attitude of the mothers of the mental retardated children. Informed consent was taken from the study participants.

RESULTS

Table No: 1 Frequency and percentage according to the demographic variables

Demographic variables		Control		Experimental	
		Frequency	%	Frequency	%
Age of mother	Below 25 yrs	3	10.00	6	20.00
	26 - 30 yrs	6	20.00	9	30.00
	31 - 35 yrs	9	30.00	6	20.00
	Above 35 yrs	12	40.00	9	30.00
Education of mother	Illiterate	5	16.67	2	6.67
	Primary	8	26.67	7	23.33
	Secondary	11	36.67	11	36.67
	Higher secondary	2	6.67	2	6.67
	Graduates	4	13.33	8	26.67
Occupation of mother	House wife	20	66.67	19	63.33
	Daily wages	8	26.67	9	30.00
	Government employee			2	6.67
	Private employee	2	6.67		
Family income	Below Rs. 1000	12	40.00	13	43.33
	2001 – 3000	8	26.67	6	20.00
	3001 – 4000	3	10.00	4	13.33
	Above 4000	7	23.33	7	23.33
No of children	One	4	13.33	12	40.00
	Two	22	73.33	18	60.00
	Three	4	13.33		
Type of family	Nuclear	26	86.67	21	70.00
	Joint	4	13.33	9	30.00
Type of marriage	Consanguineous	11	36.67	11	36.67
	Non Consanguineous	19	63.33	19	63.33
Order of children	First	21	70.00	19	63.33
	Second	6	20.00	11	36.67
	Third or more	3	10.00		
Age of child	5 – 10 yrs	9	30.00	22	73.33
	10 - 15 yrs	14	46.67	8	26.67
	Above 15 yrs	7	23.33		

Sex of children	Male	18	60.00	22	73.33
	Female	12	40.00	8	26.67
Source of information	Institution	20	66.67	18	60.00
	Hospital	10	33.33	12	40.00
Age of conception	Before 18 yrs	7	23.33	6	20.00
	19 - 25 yrs	18	60.00	18	60.00
	26 - 35 yrs	5	16.67	6	20.00
Total		30	100.00	30	100.00

It is observed from the Table No: 1 that according to the age of mother, highest percentage was in the age group of above 35 years. The education of mother of mentally retarded children, most of the mothers have secondary level education. The occupation of mother, most of the mothers is homemaker. The family income the results reveals that in control group 40 % have income of below 1000, Similarly in experimental group 43.33% have income of below 1000. The number of children, control group shows that 73.33% of the sample respondents have two children, 13.33% have one or three children. Similarly in experimental group 60% of the sample respondents have two children, 40% have one child. The type of family control group reveals that 86.67 % of the respondents are from nuclear family and in experimental group, 70 % of the respondents are from nuclear family. The type of marriage, both control group and experimental group reveals that 63.33 % of marriage was consanguineous. The order of children, most of the respondent's children are first to their family. The age of the child , highest percentage was in the age group of above 10-15 years. The sex of children, most children are male. The source of information, most of the respondents received information through institutions. The age of conception, highest percentage was in the age group of above 19-25 years.

Table No: 2 Pre –test and post-test percentage of knowledge and attitude among experimental group of mothers

Area	**No. of questions**	**Pre-test percentage of knowledge**		**Post-test percentage of**	
		Mean score	**%**	**Mean score**	**%**
General knowledge	3	1.63	54.44	2.50	83.33
Classification	4	0.33	8.33	3.07	76.67
Causative factors	4	1.40	35.00	3.13	78.33
Signs & symptoms	5	3.07	61.33	3.83	76.67
Diagnostic aspect	3	2.17	72.41	2.57	85.56
General management	7	3.10	44.29	5.47	78.10
Self care skills	6	1.77	29.44	5.10	85.00
Social skills	5	1.63	32.67	3.97	79.33
Preventive aspect	3	0.33	11.11	2.43	81.11
Over all knowledge	40	15.37	38.42	32.07	80.17
Attitude	10	8.97	44.83	15.33	76.67

Table No: 2 depicts that all the mothers are having poor knowledge and attitude on care of mentally retarded children. It is only 38.42% of knowledge, 44.83% of attitude score on care of mentally retarded children before structure teaching program. After structured teaching program knowledge score 80.17% of attitude score 76.67% on care of mentally retarded children.

Table No: 3 comparison of pre-test and post-test percentage of knowledge and attitude among experimental group of mothers

Area	Experimental group				Student paired t –test
	Pre – test		Post – test s		
	Mean	SD	Mean	SD	
General knowledge	1.63	0.49	2.50	0.63	t=5.794 P=0.001**
Classification	0.33	0.48	3.07	0.83	t=15.85 P=0.001**
Causative factors	1.40	0.89	3.13	0.86	t=8.097 P=0.001**
Signs & symptoms	3.07	0.98	3.83	0.99	t=3.039 P=0.001**
Diagnostic aspect	2.17	0.47	2.57	0.50	t=3.638 P=0.001**
General management	3.10	1.16	5.47	1.43	t=9.778 P=0.001**
Self care skills	1.77	1.19	5.10	1.12	t=11.23 P=0.001**
Social skills	1.63	1.00	3.97	0.93	t=8.985 P=0.001**
Preventive aspect	0.33	0.48	2.43	0.73	t=12.46 P=0.001**
Over all knowledge	15.37	3.64	32.07	5.13	t=18.28 P=0.001**
Attitude	8.97	2.43	15.33	3.51	t=8.963 P=0.001**

**Highly significant

Table No:3 shows that in experimental group of knowledge and attitude care of mentally retarded children in overall knowledge, pretest mean 15.37 and standard deviation 3.64 and attitude score 8.97 standard deviation 2.43, in post-test mean score was 32.07 and standard deviation 5.13 post-test attitude score with student paired knowledge score t= 18.28, P= 0.001.attitude t= 8.963 and P=0.001.the difference between pre-test and post test is large and it is statistically significant.

Table No 4: Comparison of post-test knowledge and attitude experimental and control group of mothers.

Area	Post-Test				Student Independent t-test
	Experimental		Control		
	Mean	SD	Mean	SD	
General knowledge	2.50	0.63	1.90	0.31	t=4.696 P=0.00**
Classification	3.07	0.83	0.43	0.50	t=14.88 P=0.00**
Causative factors	3.13	0.86	2.03	1.16	t=4.174 P=0.00**
Signs & symptoms	3.83	0.99	2.43	0.97	t=5.541 P=0.00**
Diagnostic aspect	2.57	0.50	1.87	0.94	t=3.603 P=0.00**
General management	5.47	1.43	2.83	1.09	t=8.027 P=0.00**
Self care skills	5.10	1.12	2.00	1.00	t=11.17 P=0.00**
Social skills	3.97	0.93	1.90	1.03	t=8.17 P=0.00**
Preventive aspect	2.43	0.73	0.57	0.50	t=11.55 P=0.00**
Over all knowledge	32.07	5.13	15.90	3.25	t=14.57 P=0.00**
Attitude	15.33	3.51	9.17	1.66	t=8.703 P=0.00**

Table No 4 : shows that In experimental group overall knowledge score on care of mentally retarded children mean score was 32.07 standard deviation 5.13 and in control group mean score was 15.90 standard deviation 3.25 with student independent t-test value of t=14.57 P=0.00.In experimental group attitude mean score 15.33 standard deviation 3.51 and in control group 9.17. Standard deviation 1.66 with student independent t-test value t=8.703 P=0.00. The difference between post-test knowledge and attitude score of experimental, control group is very large, and it is statistically significant.

Table No: 5 Difference Of Post-test Knowledge and Attitude Score between Experimental and control group of mother

Area	Post- Test		Difference
	Experimental	Control	
General knowledge	83.33%	63.33%	20.00
Classification	76.67%	10.83%	65.83%
Causative factors	78.33%	50.83%	27.50%
Signs & symptoms	76.67%	48.67%	28.00%
Diagnostic aspect	85.56%	62.22%	23.33%
General management	78.10%	40.48%	37.62%
Self care skills	85.00%	33.33%	51.67%
Social skills	79.33%	38.00%	41.33%
Preventive aspect	81.11%	18.89%	62.22%
Over all knowledge	80.17%	39.75%	40.42%
Attitude	76.67%	45.83%	30.83%

The total overall knowledge percentage in experimental group was 80.17% and attitude score is 76.67%, in the control group overall knowledge of 39.75% attitude of 45.83%, and in total difference was knowledge level of40.42% attitude 30.83%

DISCUSSION

Where observable, parent training was associated with corresponding benefits to the children (e.g., elimination of diaper rash and cradle cap, increased weight gain, successful toilet training). These results indicate that parent training may be a viable option to the removal of the child from the home when parenting skill deficits place the child's well-being in jeopardy.[4]

The results of the study suggest that the parents and family members of children with mental retardation in both the districts express a positive attitude toward the mentally retarded children. They do not have feelings of embarrassment towards their mentally retarded children.[5]

Mevada A Vyas J & Patel H 2009 wherein 71.50% of respondents had positive attitude towards their exceptional children.[6] Similar findings was revealed by Revathi 2012 where a high number of Parents found to have positive attitude towards their children. [7] Thengal N 2013 also revealed that the parents and family members have positive attitude towards Mentally Challenged Children in both the districts. They do not have feelings of embarrassment towards their Mentally Challenged Children. [5]Similar finding was reported by Radojichich D D 2004, 82.9% of all parents have a positive attitude towards people with disabilities. [8]Also Govender N 2002 identified 82% of the mothers in study had positive attitude in the pre-test and 2% had very positive attitude.[9]

This finding is dissimilar with a study conducted by Venkatalashmi H and Navya S 2003 in pre-assessment data revealed that parents of both control and experimental group have negative attitude towards their Mentally Challenged Children.[10]

CONCLUSION

The Findings of this study was the need of pediatric nurse to conduct training programme to the mothers coming to the mentally retarded school to increase the knowledge and attitude of mother regarding care of mentally retarded child.

This study has proved that mothers with mentally retarded children gained their knowledge and attitude level remarkably when compared to their previous knowledge and attitude prior to the administration of structure teaching program.

Thus in the future there is need to improve their knowledge by conducting the training program for care of mentally retarded children.

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REFERENCE

1. PARUL DUTTA," pediatric nursing" 2007 first editions. Jaypeebrothers medical publisher (p) limited. New Delhi page 402

2. Dorothy.R.Marlow,Barbara.A.Redding," text book of pediatric nursing 2006, 6th edition. Published by Elsevier India private limited. Haryana, India.

3. www.google.weblight.com.http.www.youarticlelibrary.com/psychology/statics of mentally retardation.

4. Feldman, M. A., Case, L., Garrick, M., MacIntyre-Grande, W., Carnwell, J. and Sparks, B. (1992), Teaching Child-Care Skills To Mothers With Developmental Disabilities. Journal of Applied Behavior Analysis, 25: 205–215.

5. Niranjan Thengal, Double Blind Peer-Reviewed Refereed Indexed On-Line International Journal 2005, 2(1):196-210.

6. Alka M, Vyas J, Patel H. To studt kniowledge and attitude of parents towards their exceptional children. Int Res J. 2009; II:70-71.

7. Revathi. Parents and Teacher's attitude towards parental involvement of mentally challenged children. Int J Behav Mov Sci. 2002; 1:135-141.

8. Dimitrova-Radojichich D, Chichevska-Jovanova N. Parents attitude: inclusive eduaction of children with disability. Int J Cogn Res Sci Eng Educ. 2004; 2:13-18.

9. Govender N. Attitudes of parents towards theis mentally challenged children: A rural area exaination. University of Zululand, 2002.

10. Venkat Lakshmi H, Navya S. Attitude of Parents of Mild and Moderate Intellectually Challenged Children towards Imparting Sexual Health Education. Int Res J Soc Sci. 2:1-5

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Effectiveness of Planned Teaching Programme on Knowledge and Practice Regarding the Use of Incentive Spirometry among Patients Undergoing Abdominal Surgery

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ABSTRACT

Background: Postoperative pulmonary complications play a significant role in the risk for surgery and anaesthesia. The most important and morbid postoperative pulmonary complications are atelectasis, pneumonia, respiratory failure, and exacerbation of underlying chronic lung disease.[1] Because of the introduction of more insoluble inhalation anaesthetics, which enable tracheal tube removal in the operating room and the use of pulseoximeters in clinical practice, the factors that may influence the occurrence of postoperative pulmonary complications. Low-tech breathing devices, such as incentive spirometers, are often used to promote expansion of the alveoli postoperatively by guiding the client to reach a determined level of lung inflation. Use of these aids promote alveolar inflation and strengthens respiratory muscles that are weakened during anaesthesia administration.[2]

Objectives: to assess the existing knowledge and practice regarding the post-operative pulmonary complications, to assess the effectiveness of planned teaching regarding the use of incentive spirometry on knowledge and practice of prevention in post-operative pulmonary complications among patients undergoing abdominal surgery, to find out the association between the knowledge and practice on post operative pulmonary complications and use of spirometry in prevention of post-operative complications and selected demographic variables.

Methods: Quantitative research approach was selected with quasi experimental pre test post-test control group design. Purposive sampling was used. Sampling size was 60, 30 each in experimental group and control group. The researcher assessed the effectiveness of planned teaching programme using knowledge questionnaire and observation checklist. Planned teaching programme was given to the experimental group alone. Post test conducted on five days after pre test for both the control and experimental group.

Result: The findings of the study were that, the mean post test knowledge and practice score of experimental and control group ($p<0.05$) indicates and strongly suggests that the planned teaching programme regarding the use of incentive spirometry for post-operative pulmonary complications is effective in improving the knowledge and practice among patients undergoing abdominal surgery in selected hospitals. The association of knowledge and practice regarding the use of incentive spirometry for prevention of pulmonary complication and selected demographic variables shows no significance at 0.05 level.

Conclusion: The present study suggests the need for planned teaching programme regarding the use of incentive spirometry in prevention of pulmonary complications among patients undergoing abdominal surgery.

Keywords: *Patients undergoing abdominal surgery; post operative pulmonary complications; Incentive spirometry; prevention; planned teaching programme.*

INTRODUCTION

Postoperative pulmonary complications play a significant role in the risk for surgery and anaesthesia. The most important and morbid postoperative pulmonary complications are atelectasis, pneumonia, respiratory failure, and exacerbation of underlying chronic lung disease. While clinicians are very conscious of the importance of risk factors for, cardiac complications, clinicians who care for patients in the perioperative period may be surprised to learn that postoperative pulmonary complications are equally prevalent and contribute similarly to morbidity, mortality, and length of stay. Pulmonary complications may also be more likely than cardiac complications to predict long-term mortality after surgery, particularly among older patients. To prevent postoperative surgical complication, care full pre operative preparation and practice in deep breathing and coughing exercises should be reinforced to prevent mostly pneumonia and atelectasis. Coughing removes retained secretion from the bronchi and larger airways. The patient is encouraged to take three deep breaths exhaling through the mouth before coughing. Systematic and structured efforts are needed in order to improve the quality of aesthetic care, based on examination of the circumstances surrounding undesired events. Pulmonary complications during the pre, intra and postoperative periods have been a matter of concern for many years with regard to anaesthesia. [1] Pre operative teaching is an important component in the client's operative experiences. Respiratory complications among the most common causes of post operative morbidity and mortality are estimated to occur after 5 to7% of all surgeries. The incidence of complications following upper abdominal and thoracic surgery is between 20 to 40% in patients doubling in cigarette smokers and approaching 70% in all chronic obstructive lung disease.[3]

Pre operative teaching is an important component in the client's operative experiences. Respiratory complications among the most common causes of post operative morbidity and mortality are estimated to occur after 5 to7% of all surgeries. The incidence of complications following upper abdominal and thoracic surgery is between 20 to 40% in patients doubling in cigarette smokers and approaching 70% in all chronic obstructive lung disease.[3]

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of planned teaching program on knowledge and practice regarding the use of incentive spirometry in prevention of post operative pulmonary complications among patients undergoing abdominal surgery in selected hospitals at Kollam.

OBJECTIVES

The objectives of the study were:

- To assess the existing knowledge regarding the post-operative pulmonary complications.
- To assess the existing practice regarding the post-operative pulmonary complications.
- To assess the effectiveness of planned teaching regarding the use of incentive spirometry on knowledge of prevention in post-operative pulmonary complications among patients undergoing abdominal surgery.
- To assess the effectiveness of planned teaching regarding the use of incentive spirometry on practice of prevention in post-operative pulmonary complications among patients undergoing abdominal surgery.
- To find out the association between the knowledge regarding the use of incentive spirometry in prevention of post-operative complications with selected demographic variables.
- To find out the association between the practice of incentive spirometry in prevention of post-operative pulmonary complications with selected demographic variables.

HYPOTHESES

H_1: There will be significant difference between pre test and post test knowledge score of the experimental group after planned teaching

H_2: There will be significant difference between pre test and post test practice score of the experimental group after planned teaching

H_3: There will be significant difference between the post test knowledge score of experimental and control group.

H_4: There will be significant difference between the post test practice score of experimental and control group.

H_5: There will be significant association between pre test knowledge score and selected demographic variables.

H_6: There will be significant association between pre test practice score and selected demographic variables.

MATERIALS AND METHOD

The conceptual frame work of the study was on Ludwing Von Bertalanffy's general system theory. The study made use of an evaluator approach with quasi experimental pretest post test control group design to determine the effectiveness of planned teaching programme regarding the use of incentive spirometry in prevention of surgery in selected hospitals at Kollam. The population includes hospitalized pulmonary complications among patients undergoing abdominal patients for abdominal surgery who are admitted in the surgical ward and post operative ward and who are meeting the inclusion criteria. Purposive sampling technique was used to select 60 sample for the study. The tools used were baseline Performa includes demographic profile, knowledge questionnaire and observational checklist.

The pilot study was conducted on 6 samples with abdominal surgery to confirm the feasibility of the study. The main study was done on 60 sample with abdominal surgery patients who admitted in the surgical ward and postoperative ward in selected hospitals at Kollam. The planned teaching programme regarding the use of incentive spirometry in prevention of pulmonary complications, was provided to the experimental group on the first day of hospitalization. The pre test was done before the planned teaching programme. Post test conducted on fifth day to assess the effectiveness of planned teaching programme regarding the use of incentive spirometry and was measured using knowledge questionnaire and observation checklist. The obtained data were analyses and interpreted based on the objectives and hypothesis of the study.

RESULT

The demographic characteristics of both the experimental and control group were analysed using descriptive statistics including frequency and percentage distribution. Parametric test were used to determine effectiveness of structured teaching programme, like knowledge questionnaire and observation checklist. The 't' value was computed to show effectiveness of planned teaching programme on knowledge and practice regarding the use in incentive spirometry and chi-square test was done to determine the association between the pre-test knowledge of samples and demographic variables.

Findings related to demographic data:

The demographic information revealed that in experimental group 70% of sample belong to 20-40 years of age and in control group 40% of sample belongs to 20-40 years of age group, 73.34% of males in experimental group and 80% of males in the control group. 43.34% of the sample were have the secondary education in experimental group and 40% of the sample were have the secondary education in the control group. The data on occupation shows that in experimental group 46.66% of the ample are unemployed and in control group 33.34 % are unemployed, 50% of samples in experimental group are smokers and in control group 53.33% smokers, in the experimental group 63.33% samples are not having the history of respiratory infections and in control group 60% of sample have the history of respiratory infections. In experimental group 66.66% samples not have the history of respiratory allergies and in control group56.67% of sample not have the history of respiratory allergies. 96.66% of sample not have the history of major abdominal or thoracic surgeries in experimental group and in control group 80% of not have the history and data shows that in experimental group all sample not have any history of neurologic problem and in control group 93.33% sample not have the history of any neurologic problems

Findings related to pre and post test knowledge score of experimental group

The knowledge regarding the use of incentive spirometry was assessed using the knowledge questionnaire. Findings shows that due to the implementation of planned teaching programme in the experimental group there is change in the knowledge level regarding the use of incentive spirometry that is the mean pre test score 8.27 ±1.57 changed to post test score of 16.10 ± 20.26 with a p value of 0.001. The t value was 15.36. It is concluded that there was a statistically significant improvement in knowledge regarding the use of incentive spirometry

Findings related to pre and post test practice score of experimental group

The practice regarding the use of incentive spirometry was assessed using the Observation checklist. Findings shows that due to the implementation of planned teaching programme in the experimental group there is change in the practice score regarding the use of incentive spirometry that is the mean pre test score 2.07 ± 0.45 changed to post test score of 5.87 ± 0.63 with a p value of 0.001. The t value was 31.32. It is concluded that there was a statistically significant improvement in knowledge regarding the use of incentive spirometry.

Findings related to effectiveness of planned teaching programme

Table 1: Mean standard deviation and 't' value of post test knowledge score of experimental and control group of patients who are undergoing abdominal surgery in selected hospitals (N=60)

	Mean	SD	t
Experimental group	16.10	2.26	16.39
Control group	7.27	1.89	

Tabulated t (t58) = 2.00 *significant

Table 1 shows that calculated t value is greater than tabulated t value and p <0.05 test is significant. So there is a significant difference between the post test knowledge score of experimental and control group. So hypothesis H_3 is accepted.

Table 2: Mean standard deviation and 't' value of post test practice score of experimental and control group of patients who are undergoing abdominal surgery in selected hospitals (N=60)

	Mean	SD	t
Experimental group	5.87	063	27.63
Control group	2.10	0.40	

Tabulated t (t58) = 2.00 *significant

Table 2 shows that calculated t value is grater than tabulated t value and p < 0.05 test is significant. So there is a significant difference between the post test practice score of experimental and control group. So hypothesis H_4 is accepted.

Findings related to association between pre test knowledge and practice with the selected demographic variables

Chi-square test was used to find the association between the pre test knowledge and practice score of patient who are undergoing abdominal surgery in selected hospitals and the selected demographic variables like age, sex, occupation, education, smoking history, history of respiratory allergies, history of respiratory infections, history of major abdominal surgeries and neurological problems.

Data shows that the p value >0.05 the test is not significant. So there is no association between knowledge and practice with selected demographic variables such as age, sex, occupation, education, smoking history, history of respiratory allergies, history of respiratory infections, history of major abdominal surgeries and neurological problems.

DISCUSSION

The present study was conducted to evaluate the effectiveness of planned teaching programme regarding the use of incentive spirometry among patients undergoing abdominal surgery in selected hospitals. In order to achieve the objectives of the study, quasi experimental pre test post test control group design was adopted. The subject were selected by purposive sampling method. The samples comprised of 30 samples in the experimental group and 30 in the control group. The findings of the study have been discussed in relation to the objectives and other similar studies.

To evaluate the effectiveness of planned teaching programme regarding the use of incentive spirometry among patients undergoing abdominal surgery.

The findings of the present study showed a significant difference in the mean knowledge and practice score in the experimental group (p<0.05) before and after the planned teaching programme. There was also significant difference in the post test knowledge and practice score of experimental and control group (p<0.05). This results indicates and strongly suggests that the planned teaching programme regarding the use of incentive spirometry in post-operative pulmonary complications is effective in improving the knowledge and practice among patients undergoing abdominal surgery in selected hospitals.

Association between knowledge and practice of incentive spirometry and the selected demographic variables.

The association of knowledge and practice regarding the use of incentive spirometry in prevention of pulmonary complication among patients undergoing abdominal surgery and selected demographic variables like age, sex, occupation, education, smoking history, history of respiratory allergies, history of respiratory infections, history of major abdominal surgeries and neurological problems. Were computed by chi-square test shows no association (P>0.05).

RECOMMENDATIONS

- The study may be replicated using the large sample size. A large sample size would help to create a higher statistical power that would increase the chance of finding statistical significance to generalize.
- The similar study can be conducted with 2nd year and 3rd BSc (N) Students to aware about incentive spirometry usage and practice
- The study may be conducted with the cardiac and thoracic surgery and combination with incentive spirometry and other breathing exercise

CONCLUSION

The present study aimed to find the effectiveness of planned teaching programme regarding the use of incentive spirometry in prevention of pulmonary complication among patients undergoing abdominal surgery in selected hospitals at Kollam. The findings of the study shows that the mean post test knowledge score of experimental group (16.10±2.26) was greater than the mean post test score of control group (7.27±1.89) and the mean post test practice score of experimental group (5.87 ± 0.63) was greater than the mean post test control group (2.10 ± 0.40): after the intervention (p<0.001). The result also showed a significant difference in the mean knowledge and practice score in the experimental group (p=0.001<0.05) before and after the planned teaching programme regarding the use of incentive spirometry. So the planned teaching programme regarding the use of incentive spirometry in prevention of pulmonary complications among patients undergoing abdominal surgery in selected hospitals.

Conflict of interest: None

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REFERENCES

1. Black.M.Joyce, Medical Surgical Nursing.Vol II, 7th Ed, Elsevier Publication; New Delhi, 2004; 1732-48.
2. Louis, Medical Surgical Nursing. 6th Ed, Mosby Publication, New Delhi, 2009; 1382-98
3. Curtis P J, Management of Surgery Complications, 3rd Ed, W.B. Saunder, Philadelphia: 2006.
4. Laurence VA, Dhanda R, Hilsenback SG, Page CP. Risk of Pulmonary Complications after elective abdominal surgery. Journal of Chest full text 2011 sep[cited 2011 Dec]; 110(3):http://www.hcbi.nlm.nih.gov/pubmed/879742
5. Valerie A Lawrence, John EC, Gerald WS. Strategies to reduce Post operative pulmonary complications after non cardio thoracic surgery. Journal of Internal Medicine 2011 June [cited 2011 April 18]; 1(144): https://www.ncbi.nlm.nih.gov/pubmed/16618956
6. Carole B, Karen GS, Tom T, John B, Michael JS, Karen K, Marion GD. Effect of Preoperative Incentive Spirometry Patient Education on Patient Outcomes in the Knee and Hip Joint Replacement Population. Journal of Pre Anesthesia Nursing, 2014 Feb 29(1). 20-27. http://dx.doi.org/10.1016/j.jopan.2013.01.009

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Effectiveness of Conventional and Herbal Treatment on Diabetic Foot Ulcer Using Bates-Jensen Wound Assessment Tool.

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ABSTRACT

Diabetic mellitus type 2 is s metabolic disease and a silent killer disease which leads to systemic complications especially in major blood vessels, nerves, kidneys, and eyes. In uncontrolled diabetic the foot ulcers are common complication which ends up with gangrene of the foot and amputation. The aim of this study is to compare the effectiveness of conventional and herbal treatment in diabetic foot ulcer. A total of 160 diabetic patients with foot ulcer were selected randomly and divided into conventional and herbal treatment groups (n=80 each). In conventional treatment group and in herbal treatment group the wound was assessed by using of Bates Jensen wound assessment tool, in pre-test and post test 1 after 15 days and post test 2 after 30 days. There are significant changes Jansen wound assessment tool was used to study the type of wound which consists of 13 parameters and 10 parameters were taken in this study i.e. (1) size (2) depth (3) edges (4) exudates type (5) exudates amount (6) skin colour surrounding wound (7) peripheral tissue edema (8) peripheral tissue induration (9) granulation tissue and (10) epithelialisation. In all the parameters the χ^2 value changes and the P value is <0.001 which is significant. The herbal treatment had more healing effect while comparing with the conventional treatment.

Keywords: *Diabetic patients, Diabetic foot ulcer, Conventional treatment, Herbal treatment, Diabetic foot ulcer (DFU).*

INTRODUCTION

Patients with diabetic mellitus are significantly increasing globally with high mortality and morbidity. The WHO reports 347 million people have diabetes worldwide and 7th leading cause of death. The ICMR reports 35 millions diabetics in India and 25% have the risk of developing DFU. The International Diabetes Federation (IDF) documented that around 40,000 legs are amputated every year in India. The neuropathy, ischemia and infection causing DFU and age of the patients, nutrition, smoking, diabetes, anaemia, obesity, cancer uraemia and denervation are the main factors for impaired wound healing.[1]

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The emerging treatment in diabetic wound care includes dressing with collagen product, recruitment of white blood cells to the wound site, stimulating local wound environment by growth factors like platelet growth factor, fibroblast growth factor, vascular endothelial growth factor, nitric oxide, recombinant human platelet derived growth factor, grafts, hybrid polymers, stems cells and cloning the tissue to cover the wound area.[2]

The key factors in the treatment of diabetic foot ulcer are prevention of infection, debridement of the wound, off loading the pressure, applying medication or dressing the ulcer, and managing blood glucose and other health problems. The patient should keep the blood sugar under tight control, clean and dressing and avoidance of walking barefoot will help to keep the ulcer from becoming infected.[3]

The innovative wound healing technique save the limbs. The human amniotic membrane also used to cover the foot ulcer. This membrane is full of growth factors, stem cells and nutrition for embryo development will help to form collagen to cover the wound.[4] Hydrotherapy, hyper oxygen therapy, restriction of activity, revascularization procedures will improve the peripheral arterial insufficiency. Various antibiotic creams and systemic antibiotics will help to combat the infection of the ulcer.[5]

Traditional medicine (indigenous or folk medicine, complementary medicine or alternative medicine) comprises the knowledge that has been developed over generations within various societies before the era of modern medicine. The traditional medicines include herbal, Ayurveda, Siddha, Unani, Iranian, Islamic, Chinese, acupuncture, African and other pseudo medical knowledge and practices all over the globe. The Egyptians used garlic, opium, castor oil, coriander, mint indigo, and other herbs for the treatment diabetics.[6] The Indian traditional medicines includes turmeric, neem, aloevera, iron, honey, animal grease, coconut oil, vitamins mulberry, cinnamon, fenugreek, ginger, coffee powder and shrubs.[7]

A novel, noncontact, low-intensity, low frequency ultrasound therapy also available in the treatment of non-healing leg and foot ulcers associated with chronic critical limb ischemia.[8]

A type of biotherapy involving the introduction of live, disinfected maggots into the non-healing skin and soft tissue wounds for the purpose of cleaning out the necrotic tissue within a wound and disinfection[9]

In the village pharmacy the neem tree (*Azadirchta indica*) plays an important role in healing of various ailments by inhibition of bacterial growth and modulation of genetic pathways and possess anti viral, antifungal, anti diabetic, anti inflammatory, anti malarial, immune modulator effects. The leaves possess the free radicals called scavenging radicals in prevention of diseases.[10] Turmeric (*Curcuma longa*) is an excellent wound healing medicine which contains vitamin C and E as biologically active agent which prevents inflammation, infection, nerve healing properties and aids in wound healing.[11] Coconut oil (*Cocos nucifera*) has the capacity of controlling and maintaining pancreas in curing diabetes by speeding of metabolism and helps in utilisation of glucose. The fat helps to moisturizing the wound, supplies nutrition to the tissues and helps in wound healing.[12]

Need for the study: Many studies had been conducted with various herbal preparation combined with one of two herbs or individual herb, but this study used the herbs like neem, turmeric and coconut oil combination where no one has used this combination to prepare a herbal formulation. At the village level this medicine has been used but not documented. Here this study helps for documentation of the use of herbal medicines like turmeric powder, neem leaves and coconut oil in all type of wounds and skin infections.

MATERIAL AND METHODS

The research approach used in this study was Quantitative approach by using prospective comparative interventional design among type-2 diabetic patients male and female age between 40 and above years with diabetic foot ulcer. After obtaining formal permission from Hospital authorities to conduct the study in the respective departments, the purpose of the study was explained to the patients. Samples were selected by purposive sampling method with sample size of 2 groups namely group 1(n=80) selected for conventional treatment with Betadine Iodine ointment, and group 2 (n=80) selected for herbal treatment with prepared herbal formulation. Informed consent was obtained from each patient who participated in this study. This study was approved by the Institutional "Human Ethics Committee of Saveetha University" (09/02/2014/ IEC/SU; Dated 18.12.2015). Inclusion and exclusion criteria: Diabetic patients, who gave consent for the study, with chronic wounds of more than two weeks duration and the maximum diameter were about 8 cm in size. Patients with diabetic foot ulcer of more than 2 months and patients who were suffering with malignancy and those on chemotherapy and radiation therapy on the wound region, patients with gangrene, TAO were excluded. Dressing is done with conventional (Betadine iodine ointment) or herbal oil, fresh dark green neem (*Azadirachta indica*) leaves, coconut oil (*Cocos nucifera*) along with turmeric powder (*Curcuma longa*) put to gather and heated until the neem leaves become golden yellow in colour. And it is cooled and strained under the controlled environment and tested in the lab. Data collection was taken in three visits, pre-test (visit one) post test after 15 days (visit 2) and post test after 30 days (visit 3). Bates Jensen wound assessment tool was used to assess diabetic foot ulcer. Patients were asked to continue their routine diabetic treatment and Betadine iodine dressing done for conventional group, herbal formulation dressing was done for herbal treatment group. Privacy and confidentiality was maintained throughout the study period. Data was analyzed by using descriptive and inferential statistics.

RESULTS

Table 1: Diabetic foot ulcer assessment on size, depth, edges, exudates type, exudates amount using Bates-Jensen wound assessment tool.

S. No	Parameter	Groups	Median	25 – 75 Percentile	Statistical analysis
1.	size	Conventional – pre-test	2.0	2.0-3.0	$\chi2$ =43.322
		Conventional post-test 1	2.0	2.0-2.0	P <0.001
		Conventional post-test 2	1.0	1.0-2.0	
		Herbal – Pre-test	3.0	1.0-4.0	$\chi2$=98.264
		Herbal post-test 1	2.0	1.0-3.0	P <0.001
		Herbal post-test 2	1.0	1.0-2.0	
2.	depth	Conventional – pre-test	3.0	(2.0-3.0)	$\chi2$ =45.912
		Conventional post-test 1	2.0	(2.0-3.0)	P <0.001
		Conventional post-test 2	2.0	(1.0-3.0)	
		Herbal – Pre-test	3.0	(2.0-3.75)	$\chi2$=127.410
		Herbal post-test 1	2.0	(2.0-2.75)	P <0.001
		Herbal post-test 2	1.0	(1.0-2.0)	
3.	edges	Conventional – pre-test	3.0	(2.0-4.0)	
		Conventional post-test 1	2.0	(2.0-3.0)	$\chi2$ =42.062
		Conventional post-test 2	2.0	(1.0-2.0)	P <0.001
		Herbal – Pre-test	3.0	(2.0-4.0)	
		Herbal post-test 1	2.0	(2.0-3.0)	$\chi2$ =96.510
		Herbal post-test 2	1.0	(1.0-2.0)	P <0.001
4.	Exudates type	Conventional – pre-test	3.0	(2.0-4.0)	$\chi2$ =37.078
		Conventional post-test 1	2.0	(2.0-3.0)	P <0.001
		Conventional post-test 2	2.0	(1.0-3.75)	
		Herbal – Pre-test	3.0	(2.0-4.0)	$\chi2$=103.488
		Herbal post-test 1	2.0	(1.0-3.0)	P <0.001
		Herbal post-test 2	1.0	(1.0-2.0)	
5.	Exudates amount	Conventional – pre-test	3.0	(2.0-4.0)	$\chi2$ =22.123
		Conventional post-test 1	2.0	(2.0-3.0)	P <0.001
		Conventional post-test 2	2.0	(1.0-3.75)	
		Herbal – Pre-test	3.0	(2.0-4.0)	$\chi2$ =94.770
		Herbal post-test 1	2.0	(1.25-3.0)	P <0.001
		Herbal post-test 2	2.0	(1.0-2.0)	

n = 80 each

Table 2 : Diabetic foot ulcer assessment on skin color surrounding wound, peripheral tissue edema, peripheral tissue induration, granulation tissue, epithelialisation using Bates-Jensen wound assessment tool.

S. No	Parameter	Groups	Median	25 – 75 Percentile	Statistical analysis
1.	Skin colour surrounding wound	Conventional – pre-test	3.0	(2.0-4.0)	$\chi2$ =22.124
		Conventional post-test 1	2.0	(2.0-3.0)	P <0.001
		Conventional post-test 2	2.0	(1.0-3.75)	
		Herbal – Pre-test	3.0	(2.0-4.0)	$\chi2$ =105.33
		Herbal post-test 1	2.0	(1.0-2.75)	P <0.001
		Herbal post-test 2	1.0	(1.0-1.0)	
2.	Peripheral tissue edema	Conventional – pre-test	3.0	(2.0-4.0)	$\chi2$=30.277
		Conventional post-test 1	2.0	(2.0-3.0)	P <0.001
		Conventional post-test 2	2.0	(1.0-3.0)	
		Herbal – Pre-test	3.0	(1.0-4.0)	$\chi2$ =87.777
		Herbal post-test 1	2.0	(1.0-3.00)	P <0.001
		Herbal post-test 2	1.0	(1.0-2.0)	

3.	Peripheral tissue induration	Conventional – pre-test Conventional post-test 1 Conventional post-test 2 Herbal – Pre-test Herbal post-test 1 Herbal post-test 2	3.0 2.0 2.0 3.0 2.0 1.0	(2.0-4.0) (2.0-3.0) (1.0-3.0) (2.0-4.0) (1.0-3.0) (1.0-2.0)	$\chi 2$ =20.972 P <0.001 $\chi 2$ =98.149 P <0.001
4.	Granulation tissue	Conventional – pre-test Conventional post-test 1 Conventional post-test 2 Herbal – Pre-test Herbal post-test 1 Herbal post-test 2	3.0 2.0 2.0 3.0 2.0 1.0	(2.0-4.0) (2.0-3.0) (1.0-3.0) (2.0-4.0) (1.25-3.0) (1.0-2.0)	$\chi 2$=32.973 P <0.001 $\chi 2$=116.795 P <0.001
5.	Epithelialisation	Conventional – pre-test Conventional post-test 1 Conventional post-test 2 Herbal – Pre-test Herbal post-test 1 Herbal post-test 2	3.0 2.0 2.0 3.0 2.0 1.0	(2.0-4.0) (2.0-3.0) (1.0-3.0) (2.0-4.0) (2.0-3.0) (1.0-2.0)	$\chi 2$ =29.286 P <0.001 $\chi 2$=19.481 P <0.001

n = 80 each

FINDINGS

The comparison of conventional and herbal treatment on wound size, depth, edges, exudates type, exudates amount, peripheral tissue oedema, peripheral tissue induration, granulation tissue and epithelialisation were done in a box plot using of the mean, median, 25 percentile, 75 percentile, minimum value, maximum value and outliers. As the data is a discrete date with a wide range and also scored or ranked data it was analysed by non parametric statistics. For comparing conventional and herbal Mann Witney rank sum test. The pre-test, 15 days visit, and 30 days visits are compared by Freedman repeated measures of analysis of variance on rank with student- Newman -Keuls multiple comparison method. The χ^2 value and the P values are shown in the above tables. Comparison of conventional and herbal wound healing on Bates-Jensen wound assessment on size in conventional, the 'c^2' and 'P' values are 43.322 and < 0.001 and in herbal the 'c^2' and 'P' values are 98.264 and < 0.001. The comparison on depth in conventional the 'c^2' and 'P' values are 45.912 and < 0.001and in herbal the 'c^2' and 'P' values are 127.410 and < 0.001. Comparison on wound edges in conventional, the 'c^2' and 'P' values are 42.062 and < 0.001 in the herbal the 'c^2' and 'P' values are 96.510 and < 0.001. Comparison of assessment on exudates type; in the conventional the 'c^2' and 'P' values are 37.078 and < 0.001 respectively; for the herbal the 'c^2' and 'P' values are 103.488 and < 0.001 as observed. Comparison of conventional and herbal wound healing on exudates amount; for the conventional the 'c^2' and 'P' values are 22.123 and < 0.001 as per the test, and for the herbal the 'c^2' and 'P' values are 94.770 and < 0.001 in the study made. Comparison of wound assessment on skin colour surrounding wound; for the conventional the 'c^2' and 'P' values are 22.124 and < 0.001 respectively; for the herbal the 'c^2' and 'P' values are 105.331 and < 0.001 sequentially. Comparison of wound assessment on peripheral tissue edema; for the conventional the 'c^2' and 'P' values are 30.277 and < 0.001 as observed; for the herbal the 'c^2' and 'P' values are 87.777 and < 0.001 individually. Comparison of peripheral tissue induration for the conventional the 'c^2' and 'P' values are 20.972 and < 0.001 respectively; for the herbal the 'c^2' and 'P' values are 98.149 and < 0.001 correspondingly. Comparison of wound assessment on granulation tissue; for the conventional the 'c^2' and 'P' values are 32.973 and < 0.001 sequentially; for the herbal the 'c^2' and 'P' values are 116.795 and < 0.001 respectively. Comparison of wound assessment on epithelialization, for the conventional the 'c^2' and 'P' values are 29.286 and < 0.001as per the study made; for the herbal the 'c^2' and 'P' values are 119.481 and < 0.001 correspondingly. The Bates Jensen's wound assessment tool showed that there is significant difference in all the categories of wound healing effect. The study showed that there was healing effects in both conventional treatment group and herbal treatment group but the herbal formulation appears to be better and economically more viable.

DISCUSSION

The study result concludes that the herbal treatment appears to be superior to the conventional treatment in the healing effect of diabetic foot ulcer. This herbal formulation can be prepared domestically. It can cut down the hospitalization charges and frequent visit to the clinics. Economically deprived and marginalized people can depend on these types of medicines. "Prevention is better than cure" is an old age; diabetics can be prevented by regular intake of medicines, check up, monitoring of glucose, change of dietary habit, life style modification, reduction of obesity and high cholesterol. Diabetic foot care and daily inspection of the feet and nail care is to be done as a routine.

Conflict of Interest: None declared

Ethical Clearance

The study was conducted after getting the written approval from the institutional human Ethics Committee of Saveetha University (009/2/2014/IEC/SU; Dated 18.12.2015).

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REFERENCES

1. Ajaz A (2015). Safety and effectiveness of ampucare in treatment of diabetic foot ulcers. The Journal of the International Journal of Recent Scientific Research. 3916-3920.
2. Thanh D (2002). Emerging treatment in diabetic wound care. The Journal of the Medscape.
3. Harrison's (2008). Principles of Internal medicine. McGrawHill Medical Publication. 2275-2304.
4. Alyssa D (2016). Innovative wound- healing technique could save limbs. The Journal of the LIVESCIENCE.
5. Vincent LR (2017). Diabetic ulcers treatment & management. The Journal of the Medscape.
6. Ananda AD (2012). Wound care with traditional, complementary and alternative medicine. The Journal of the Indian Journal of Plastic Surgery. 418-424.
7. Tuhin KB, Biswapati M (2003). Plant medicines of Indian origin for wound healing activity. The Journal of the Indian journal of Lower Extremity Wounds.
8. Kavros, Steven J, Miller, Jenny L, Hanna, Steven W (2007). Treatment of ischemic wounds with noncontact, low- frequency ultrasound. The Journal of the Wolters Kluwer. 221-226.
9. Ronald AS (2003). Maggot therapy for treating diabetic foot ulcers unresponsive to conventional therapy. The Journal of the Emerging treatment and technologies. 446-451.
10. Mohd SK, Qamrul HL, Mahmood AK (2015). Physico- Chemical and Pharmacological prospective of Roghan-E-Narjeel (coconut oil). The Journal of the International Journal of Pharmaceutical Sciences and Research.
11. Anjali S, Anil KS, Narayan G, Teja BS, Vijay KS (2014). Effect of neem oil and haridra on non-healing wounds. The Journal of the International Quarterly Journal of Research in Ayurveda. 398-403.
12. Subash CG, Bokyung S, Jihyekim, Sahdeo P, Shiyou L, Bharat BA(2013). Multitargeting by turmeric the golden spice from kitchen to clinic. The Journal of the Pubmed. 1510-1528.

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A Study To Assess The Effectiveness of Video Assisted Teaching Module (VATM) on Knowledge Regarding Sibling Rivalry and its Management among Mothers in Selected Areas of Bhopal (M.P.)

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ABSTRACT

Sibling Rivalry is one of humanity's oldest problems. Parents frequently have questions about sibling hostility or regression and concerns about their ability to integrate another child into the family**.** A Quasi experimental study was conducted using Non-equivalent control group for a total of Eighty mothers (40- experimental and 40- control) recruited from selected areas in Bhopal (M.P), India by non-probability convenience sampling technique. Researcher Developed Structured questionnaire containing 30 items was used for assessing the knowledge level of sample. Reliability and validity of the tool were established. Pre -test was conducted among experimental and control group and the Video Assisted Teaching Module (VATM) was administered to mothers in the experimental group followed by post-test on14th day. The study found that, there was a significant improvement among post-test mean knowledge score (15.3±4.99) among the subjects compared to the pre-test score (9.57±4.63) at $p < 0.001$ level. There is a significant association between knowledge of mothers with their demographic variables like education, occupation, family monthly income and source of previous information. The study concluded that VATM was effective in improving the knowledge on sibling rivalry management.

Keywords: *Mothers, Video Assisted Teaching Module, Sibling Rivalry*

INTRODUCTION

In India about 43% of population comprised of children. Child health (both physical and mental) is the corner stone of National Progress and the countries which neglect the child, its future progress will be affected. Children under five years of age constitutes 15-20% of the Indian population, their protection is a greatest investment for countries' economy and political stability. According to WHO, an estimated 4 million children aged between 0-5 years suffer from competition from the siblings, neglect, rivalry and sibling abuse.[6]

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The word "sibling rivalry" means the competitive feelings and actions that often occur among children in a family. It is the natural jealousy and resentment of children to a new/younger child in the family. It typically involves the arrival of a new infant but may be associated with anyone who joins the family. A common example is the merging of stepfamilies.[1] If sibling rivalry is not handled properly; unhealthy competition and feelings of envy among siblings may persist into adolescence and even adulthood.[2]

Sibling rivalry is classically assumed to exist as a result of the older sibling perceiving the younger sibling as responsible for the decreased affection and attention manifested by the mother towards the self. This may result in the older child's hostility towards the younger child. Initially it may be the older sibling who feels rivaled by the new sibling, but later on, the younger sibling also has to deal with competition for food, toys,

approval and attention. However, sibling rivalry works both ways – from older to younger or younger to older.[3] The conflict may include hitting, kicking, name-calling and other types of verbal or physical aggression. This behavior usually succeeeds in getting parents' attention. Obviously, managing sibling conflict can strain even the most patient parents.[4] The Third National Incidence Study of Child Abuse (NIS-3) estimated that 37% of the children are abused by their siblings and 67% of all children come across sibling rivalry.[5]

According to observational studies conducted by Dunn, children are sensitive from the age of one year to differences in parental treatment. From 18 months on, sibling can understand family rules and know how to comfort or hurt each other. By 3 years, children have a sophisticated grasp of social rules, can evaluate themselves in relation to their siblings and know how to adapt to circumstances within the family.[7]

The association between parent-child relationships and sibling relationships has a number of theories surrounding it. Modeling and social learning theory suggest that children model the behaviour with their siblings that they have learned in their relationships with their parents. Also, the attachment theory suggests that children form schemas based on their relationships with their parents that they later on shape the relationships that develop with their siblings (Stocker 2000).[8]

The authors proposed that conflict between children at the age of 10 would lead to increased depression, anxiety, and bad behavior two years later. It was also expected that sibling conflict earlier in childhood would lead to hostility with the mother and adjustment problems later. The results supported the predictions, suggesting that sibling rivalry either resulted in poor family adjustment over time, or that anxious, depressed ten year olds were more likely to be in conflict with their siblings.[9]

Understanding the cause of sibling rivalry is the only way parents can prevent or reduce it. And the child's sense of security is the key to this. The cause of sibling rivalry stems from the idea that the young sibling is a threat to the older child's secure sense of self.[10] Parents, especially mothers' can play an important role in managing sibling rivalry in children if they have enough knowledge to handle such things. Thus the current study analysed the knowledge among mothers with two or more children regarding sibling rivalry issues and its management.

MATERIALS AND METHOD

The objectives of the study were, to assess the effectives of VATM on knowledge of mothers regarding the sibling rivalry and its management and to determine the association between the knowledge of mothers regarding sibling rivalry with their selected demographic variables. The study was approved by scientific research ethics committee. Participants were explained about the purpose of the study and they were also informed that they could withdraw from the study at any time before the completion of the study. Participants who agreed to complete this study were asked to sign a consent form and confidentiality of participants was assured. Mothers with less than 45 years of age, who have at least two children below the age of 10 years and can read Hindi language, were included in the study.

The study used A Quasi Experimental research approach with Non-equivalent control group design, where non-probability convenience sampling technique was used for the selection of sample. 80 mothers (40 experimental and 40 control group) were selected from Kolar Road, Bhopal (Madhya Pradesh, India). A researcher prepared Structured questionnaire containing 30 items were used for assessing the knowledge level of sample. The Pilot study was conducted at Nayapura, Bhopal. The content validity of the tool was obtained from experts in the field of mental health nursing, psychiatry and clinical psychology. The reliability of the tool was tested by using spearman brown split half method and score was found to be r = 0.89 for knowledge questionnaires. Pre -test was conducted to know the knowledge regarding sibling rivalry and its management among experimental and control group and the Video Assisted Teaching Module was administered to mothers in the experimental group and the post-test was done after the gap of two weeks for the both group. The collected data were analyzed by using descriptive and inferential statistics.

FINDINGS

The demographical data of both experimental and control group were analyzed and tabulated using descriptive statistics.

Table 1 : Distribution of demographic variables of the experimental and control group

Demographic variables	Experimental Group (n=40)		Control Group(n=40)		Total (n=80)	
	F	%	F	%	F	%
1. Age of mothers						
26-30	5	12.5	7	17.5	12	15
31-35	12	30	14	35	26	32.5
36-40	15	37.5	13	32.5	28	35
41-45	8	20	6	15	14	17.5
2. Educational status						
Illiterate	4	10	7	17.5	11	13.75
School level	28	70	24	60	52	65
College level	8	20	9	22.5	17	21.25
4. Occupation						
Daily wagers	12	30	12	30	24	30
Private employee	10	25	9	22.5	19	23.75
Government job	3	7.5	6	15	9	11.25
Home maker	15	37.5	13	32.5	28	35
5. Number of children						
2	22	55	20	50	42	52.5
3	12	30	11	27.5	23	28.75
4	3	7.5	4	10	7	8.75
More than 4	3	7.5	5	12.5	8	10
6. Family monthly income						
Below 5000	10	25	10	25	20	25
5001-10000	13	32.5	12	30	25	31.25
10001-15000	10	25	12	30	22	27.5
Above 15000	7	17.5	6	15	13	16.25
7. Previous source of information						
Family members	2	5	5	12.5	7	8.75
Friends	4	10	5	12.5	9	11.25
Mass media	5	12.5	3	7.5	8	10
Medical persons	1	2.5	2	5	3	3.75
No information	28	70	25	62.5	53	66.25

The results in table 1 showed that majority of mothers (35%) were in the age group of 36-40 years, majority (65%) had primary education, majority (77.5%) were Hindu, majority (35%) were home maker, majority (52.5%) of mothers had two children, majority (31.25%) had family income between 5001-10,000 Rs/- per month, majority (66.25%) of mothers had received no any sources of previous information regarding sibling rivalry and its management.

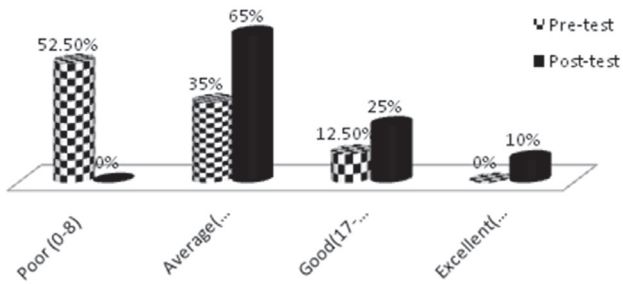

Figure 1: Level of knowledge (Pre-test and Post-test) of mothers in Experimental Group

Figure-1 shows a tremendous improvement of the knowledge in the experimental group, where the pre –test scores of mothers were, 52.5% had poor knowledge, 35% had average and 12.5% Mothers had good knowledge. Which was increased in post –test as, 65% Mothers had average knowledge, 25% had good and 10% Mothers had excellent knowledge.

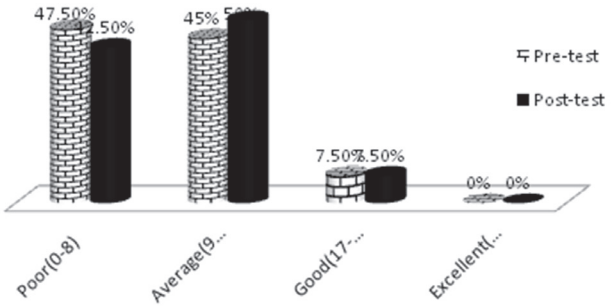

Figure 2: Level of knowledge (Pre-test and Post-test) of mothers in Control Group

Figure-2,depicts that in pre –test, the control group, 47.5% Mothers had poor knowledge, 45% had average and 7.5% Mothers had good knowledge. Which is slightly improved in the post –test as, 42.5% Mothers had poor knowledge, 50% had average and 7.5% Mothers had good knowledge.

Table 2 : Mean, Standard Deviation and Paired 't' test value of pre-test and post-test knowledge score in Experimental group and control group (n=80)

Groups	Pre-Test		Post-Test		't'value	p-value
Experimental Group (n=40)	Mean	SD	Mean	SD	10.8	0.0001**
	9.57	4.63	15.3	4.99		
Control Group (n=40)	9.22	4.13	9.53	4.11	0.913	0.367

**p < 0.001

The results in table-2 demonstrates that, there was significant difference ('t'=10.8, p=0.001) in pre-test and post-test knowledge score about Sibling Rivalry and its management in the Experimental group. But, there was no significant difference ('t'=0.913, p=0.367) in pre-test and post-test knowledge score about Sibling Rivalry and its management in the Control group. Table-3 shows that there was a significant difference ('t'=5.59, p=0.0001) in the Post-test knowledge score among Experimental and Control group.

Table 3: Mean, Standard Deviation and Independent 't' test value of post-test knowledge score in Experimental and Control group (n=80)

Group	Post-Test		't'value	p-value
	Mean	SD		
Experimental group (n=40)	15.3	4.99	5.59	0.001**
Control group (n=40)	9.53	4.11		

**p < 0.001

Table 4 depicts that, the association between pre -test knowledge score with selected demographical variables in experimental and control group

Table 4 : Association between pre -test knowledge score with the demographic variables.

Demographic variables	Experimental Group		Control Group	
	X^2-Value	P value	X^2-Value	P value
Age of mothers	1	0.08	3.37	0.29
Educational status	11.5	0.003*	15.7	0.001*
Occupation	8.12	0.04*	13.1	0.004*
Number of children	1.90	0.592	1.81	0.612
Family monthly income	7.18	0.066	11.1	0.011*
Previous source of information	1.25	0.870	9.69	0.046*

*p < 0.05

In the experimental group, there is significant association between pre-test knowledge with demographic variables like education (0.003) and occupation (0.04) and In control group, there is significant association between pre -test knowledge with demographic variables like education (0.001), occupation (0.004), family monthly income (0.011) and source of previous information (0.046).

DISCUSSION

The study subjects were assessed based on their socio-demographic profile; most of the subjects were in an age group of 36-40years (35%) 55% had school-level education, with a majority family income between 500-10000rs per month (31.25%) and majority (66.25%) had no previous information regarding sibling rivalry. This findings were comparable with study result by Chaulagain et al. (2016) who had conducted a study among mothers in Mangaluru, the results were as follows, majority (40%) of mothers were in the age group of 32-40 years, majority (56%) had income less than Rs.10, 000/ per month, majority (50%) had primary education, majority (58%) were residing in urban area, majority (64%) of mothers have received some information regarding sibling rivalry and it was from family and friends.[11]

The main purpose of the study was to find the effectiveness of VATM on knowledge regarding Sibling Rivalry and its management among Mothers. The pre-test findings revealed that a majority of mothers in both experimental (52.50% had poor and35% had average knowledge) and control group (47.50 had poor and 45% had average knowledge) had significantly less knowledge about the sibling rivalry, which was consistent with Chaulagain (2016) et al. study, they found that 50% of the study mothers had inadequate knowledge and other 50% had moderately adequate knowledge on Sibling Rivalry.[11]

A study conducted by K.Kanimozhi (2015) revealed a significant difference in mothers knowledge score after their educational experience on sibling rivalry 't'=16.32, $p < 0.05$ level. Where the author administered a structured teaching programme which was found to be significantly effective in knowledge and positive attitude on Sibling Rivalry and its management among Mothers. This finding was in concordance with the present findings where the VATM improved the knowledge of the study subjects significantly ($p < 0.001$).[12]

In the current study selected socio-demographic variables like education, occupation, family monthly income and source of previous information showed significant association with pretest knowledge. In contrast to this, Chaulagain et al. (2016) study showed no significant association between the same.[11]

There was a significant difference in knowledge scores between the experimental and control group in the current study. The VATM was effective for mothers in improving the knowledge on sibling rivalry and its management. It was evident from the significant gain in post-test knowledge scores as revealed by the paired 't' test among experimental group than control group where teaching module was not administered.

CONCLUSION

The knowledge of mothers regarding sibling rivalry is very important to bring the positive changes in the parent-child and sibling relationships. Parents can reduce the chances of rivalry by practicing refusal to compare, and teach child the positive ways to get attention from each other and from the parents. Educational programs can be planned to the mothers by the health care professional so that they will be able to manage sibling rivalry in their children.

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REFERENCES

1. Christy .S.K, "a study to assess the effectiveness Of structured teaching programme on sibling rivalry and its prevention among mothers of underfive children in a selected urban area, karnataka", (online), available at: www.rguhs.ac.in/cdc/onlinecdc/uploads/05_N312_28415.doc
2. Hockenberry MJ, Wilson D. Wong's Essentials of Pediatric Nursing. 8th ed. Uttar Pradesh (India): Replika Press; 2009. p. 420-1.
3. Sawicki JA. Sibling Rivalry and the new baby: anticipatory guidance and management strategies. Nursing and health magazines.(online), Pediatric Nursing 1997 May. Available at: https://www.ncbi.nlm.nih.gov/pubmed/9220807
4. Christ church psychology: SIBLING RIVLARY, (online), accessed on 2-03-17, available from: http://www.christchurchpsychology.co.nz/tag/sibling-rivalry/
5. Jonathan Poquiz, MA and Andrew Frazer, Sibling Rivalry, University of Kansas, Clinical Child Psychology Program, (ONLINE), Published April 15, 2016 available at: https://kuclinic.ku.edu/sites/kuclinic.ku.edu/files/files/sibling%20rivalry.pdf

6. Nico Trocmé, Barbara Fallon, Bruce MacLaurin, Joanne Daciuk, Caroline Felstiner, Tara Black, Lil Tonmyr, Cindy Blackstock, Ken Barter, Daniel Turcotte, Richard Cloutier. Canadian Incidence Study of Reported Child Abuse and Neglect – 2003, available from: http://canadiancrc.com/PDFs/Canadian_Incidence_Study_Child_Abuse_Neglect_Major_Findings_2003_final_e.pdf

7. Psychology today: Sibling rivalry often lingers through adulthood,(online), June 9 2016,accessed on 20-02-17, available from: https://www.psychologytoday.com/articles/199301/adult-sibling-rivalry

8. Stocker, C. M. (2000). Sibling relationships. Encyclopedia of psychology, Vol Kazdin, Alan E. (Ed.); Washington, DC, US: American Psychological Association, 2000. pp. 274-279.

9. Maiorano, Michelle, "A case study on sibling rivalry and the use of a social skills training model" (2010).*Theses and Dissertations.* Paper125.

10. Peter Ernest Haiman: How To Prevent Sibling Rivalry, Nurture Parenting Magazine, Issue 01, 2012.available at: http://www.peterhaiman.com/pdfs/articles/preventSiblingRivalry.pdf

11. Susma Chaulagain, Soujanya PU, Sonia Maria Moras, Priya Reshma Aranha*, Asha P Shetty A study on knowledge regarding sibling rivalry in children among mothers in selected hospital at Mangaluru, Journal of Scientific and Innovative Research 2016; 5(4): 122-124

12. K.Kanimozhi, R.Ajithanancyrani, S. Saradhadevi, G.Ajitha Kumari, V. Hemavathy, "A Study To Assess The Effectiveness Of Structured Teaching Program On Management Of Sibling Rivalry Among Mothers Of Under Five Children In A Selected Area At Chennai." IOSR Journal of Nursing and Health Science (IOSR-JNHS) Volume 4, Issue 3 Ver. I (May. - Jun. 2015), PP 72-74

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Reduction of Muscle Cramps among Patients Undergoing Hemodialysis: The Effectiveness of Intradialytic Stretching Exercises

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ABSTRACT

Renal failure is a non-communicable disease which has drastically affected a majority of the world population including Indians. With many patients undergoing dialysis, muscle cramps are a common complication during dialysis treatments.

Aim: To assess the effectiveness of intradialytic stretching exercises on reduction of muscle cramps among patients undergoing hemodialysis.

Materials and Methods: A quantitative evaluative pre-experimental research design with one group pre-test pot-test was used. 60 patients undergoing hemodialysis who met the inclusion criteria were recruited using non probability purposive sampling technique. Intradialytic stretching exercises were performed for the gastrocnemius and soleus (calf) muscles of the patient during the 2nd hour of hemodialysis. Data collected before and after intervention was collected using Modified Penn's Spasm Frequency Scale.

Results: Findings revealed that before performance of intradialytic stretching exercises, 66.7% and 33.3% of samples had immoderate and severe muscle cramps respectively. Post intervention 1.7% of samples had severe muscle cramps, 8.3% had mild muscle cramps and 1.7% did not have muscle cramps. This showed that intradialytic stretching exercises were effective in reducing muscle cramps among patients undergoing hemodialysis.

Keywords: *Hemodialysis, Intradialytic stretching exercise, Muscle cramps, Chronic kidney disease*

INTRODUCTION

Healthy kidneys are the sophisticated reprocessing machine that cleans the blood by removing fluid, salt and wastes from the body. Deficit in blood supply to the kidney will lead to decreased function. Prolonged decrease in the blood supply or in the blood pressure will lead to acute or sudden kidney failure.[1] 10% of the population worldwide is affected by chronic kidney disease (CKD). In people aged 65 through 74 worldwide, it is estimated that one in five men, and one in four women, have CKD.[2]

CKD is determined by the presence of kidney injury and by the level of renal function, assessed according to the glomerular filtration rate. In more advanced stages, when the kidneys can no longer maintain homeostasis of the body, the patient will depend on one of the modalities of renal replacement therapy (RRT): dialysis or kidney transplant.[3] Hemodialysis(HD) is a process of purifying the blood of a person whose kidneys are not working normally. HD often involves fluid removal (through ultrafiltration), because most patients with renal failure pass little or no urine. Side effects caused by removing too much fluid and/or removing fluid too rapidly include low blood pressure, fatigue, chest pains, leg-cramps, nausea and headaches. These symptoms can occur during the treatment and can persist post treatment; they are sometimes collectively referred to as the dialysis hangover or dialysis washout.[4]

One of the most common complications is muscle cramps. It can occur anywhere in the body, but common in calf muscles, feet, toes, thigh and abdomen. Almost all patients complain of muscle cramps at one time or the other usually of that of calf muscle. They are managed with normal saline infusion, simple calf massages and even by temporarily stopping the ultrafiltration till cramps go off.[5]

Numerous treatment methods for HD related cramps have been suggested, however most of them have been accompanying with severe side effects and none have been unconvincingly effective. It concluded that, stretching exercises for the affected muscle can immediately relieve the cramp. The usage of consistent stretching exercises to avoid occurrence of cramps was proposed and concluded that, muscle stretching during cramps could be helpful for HD patients [6]. Since cramps are a common complication for HD patients that cause discomfort, proper interference with muscle cramps and preventing the occurrence as well has become an essential intervention of the nurses who are taking care of HD patients during that time almost everywhere [7].

Statement: 'A study to assess the effectiveness of intradialytic stretching exercises on reduction of muscle cramps among patients undergoing hemodialysis in selected hospitals in Pune city.'

Objectives

1. To assess the existing level of muscle cramps among patient undergoing hemodialysis.
2. To assess the effectiveness of Intradialytic stretching exercise on reducing level of muscle cramps among patient undergoing hemodialysis.
3. To find out the association between pre-exercise level and post-exercise level and selected demographic variables.

MATERIALS AND METHODS

The study was conducted at a tertiary care center in Pune city on a target sample of patients undergoing HD. A quantitative research approach with one group pre-test post-test design was adopted to assess the effectiveness of Intradialytic stretching exercise on reducing level of muscle cramps among patient undergoing HD. Non probability purposive sampling technique was adopted with a total sample size of 60.

The tool constructed consisted of,

Section I: 12 items of demographic data.

Section II: Modified Penn's Spasm Frequency Scale to assess the frequency and severity of muscle cramps. Frequency was assessed by a 5 point scale depending on the occurrence of muscle cramps. Severity was assessed by a numerical pain scale.

Sampling Criteria

Inclusion Criteria

Patients with chronic kidney disease undergoing HD:

1. With age greater than 30 years.
2. Those who were available at the time of data collection.
3. Who are alert, conscious and cooperative.

Exclusion Criteria

Patients with chronic kidney disease undergoing HD who are:

1. Critically ill patients.
2. Not willing to participate.
3. Suffering from pain of other origin other than muscle cramps.

RESULTS

The collected data were analyzed, organized and presented under the following sections:-

Section I: Description of Samples based on their personal characteristics.

Table 1: Description of samples based on their personal characteristics in terms of frequency and percentages N=60

Demographic variable	Freq	%
Age (years)		
30-40 Years	6	10.0%
41-50 Years	16	26.7%
51-60 Years	19	31.7%
61 Years and above	19	31.7%
Gender		
Male	33	55.0%
Female	27	45.0%
Marital status		
Married	46	76.7%
Divorced	2	3.3%
Widow / Widower	12	20.0%
Occupation		
Skilled	15	25.0%
Unskilled	45	75.0%

Educational qualification		
Primary	17	28.3%
Secondary	25	41.7%
Higher secondary	9	15.0%
Graduate and Above	9	15.0%
Health habits		
Smoking	4	6.7%
Smoking, Drinking	1	1.7%
Smoking, Drinking, Tobacco	1	1.7%
Drinking	13	21.7%
Drinking, Tobacco	3	5.0%
Tobacco	17	28.3%
Tobacco	1	1.7%
Name of illness		
HTN	2	3.3%
HTN, ESRD	1	1.7%
HTN, ESRD, DM	2	3.3%
HTN, DM	6	10.0%
HTN, DM, CKD	3	5.0%
HTN, CKD	11	18.3%
ESRD	5	8.3%
ESRD, DM	1	1.7%
DM	1	1.7%
DM, CKD	9	15.0%
DM, Joint pain	1	1.7%
CKD	17	28.3%
AKI	1	1.7%
How long on HD		
Less than a year	11	18.3%
1-2 years	21	35.0%
2-4 years	10	16.7%
4-5 years	13	21.7%
More than 5 years	5	8.3%
Frequency of undergoing HD		
3 times a week	10	16.7%
2 times a week	20	33.3%
Once a week	28	46.7%
Others	2	3.3%
Duration of HD		
4 Hours	60	100.0%
Do you experience muscle cramps during HD		
Yes	60	100.0%
Alternative therapies for muscle cramp		
Medications	30	50.0%
Medications, Exercises	4	6.7%
Medications, Other	2	3.3%
Exercises	11	18.3%
Other	13	21.7%

Table 1 depicts that majority (31.7%) of the samples had age 51-60 years and above 60 years, moderate 926.7%) samples had age 41-50 years and minority (10%) samples had age 30-40 years. The findings also showed that, 55% of them were males and 45% of them were females. Majority (76.7%) were married, 75% were unskilled, 41.7% had secondary education, 33.3% did not have any bad health habits, 28.3% were diagnosed with CKD, 35% of them were on HD for 1-2 years, 46.7% of them had HD once a week. All the samples underwent HD for 4 hours and experienced muscle cramps. Among the samples, majority (53.3%) of them took medications as an alternative therapy for muscle cramps.

Section II: Analysis of data related to the level of muscle cramps among patient undergoing haemodialysis.

In the pre-test level, 43.3% of the patients undergoing HD had infrequent full muscle cramps occurring less than once per hour, 41.7% of them had muscle cramps occurring more than once per hour, 8.3% of them had mild cramps induced by stimulation and 6.7% of them had muscle cramps more than 10 times per hour.

Majority (66.7%) of the patients undergoing HD had moderate muscle cramps and minority (33.3%) of them had severe muscle cramps.

Section III: Analysis of data related to the effectiveness of Intradialytic stretching exercise on reducing level of muscle cramps among patient undergoing haemodialysis

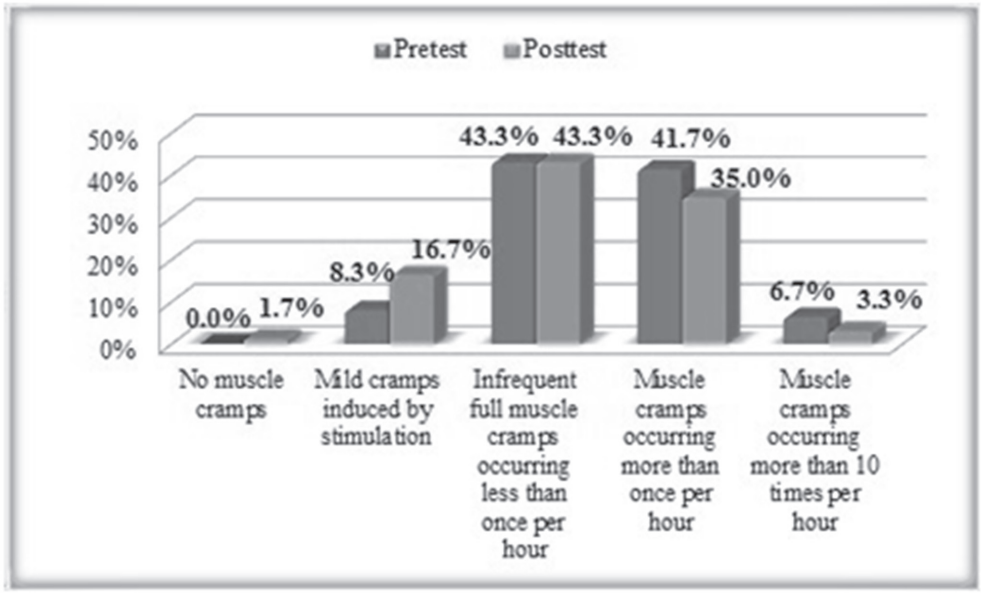

Figure 1 : Description of Effectiveness of Intradialytic stretching exercise on reducing frequency of muscle cramps

Figure 1 denotes that in pretest, 43.3% of the patients undergoing had infrequent full muscle cramps occurring less than once per hour, 41.7% of them had muscle cramps occurring more than once per hour, 8.3% of them had mild cramps induced by stimulation and 6.7% of them had muscle cramps more than 10 times per hour. In posttest, 43.3% of the patients undergoing HD had infrequent full muscle cramps occurring less than once per hour, 35% of them had muscle cramps occurring more than once per hour, 16.7% of them had mild cramps induced by stimulation, 3.3% of them had muscle cramps more than 10 times per hour and 1.7% of them had no muscle cramps.

Figure 2 denotes that, in pretest, 66.7% of the patients undergoing HD had moderate muscle cramp and 33.3% of them had severe muscle cramps. In posttest, 88.3% of them had moderate muscle cramps, 1.7% of them had severe muscle cramps, 8.3% of them had mild muscle cramp and 1.7% of them did not had muscle cramps.

This indicates that Intradialytic stretching exercise improved remarkable the frequency and severity of muscle cramps among patient undergoing HD.

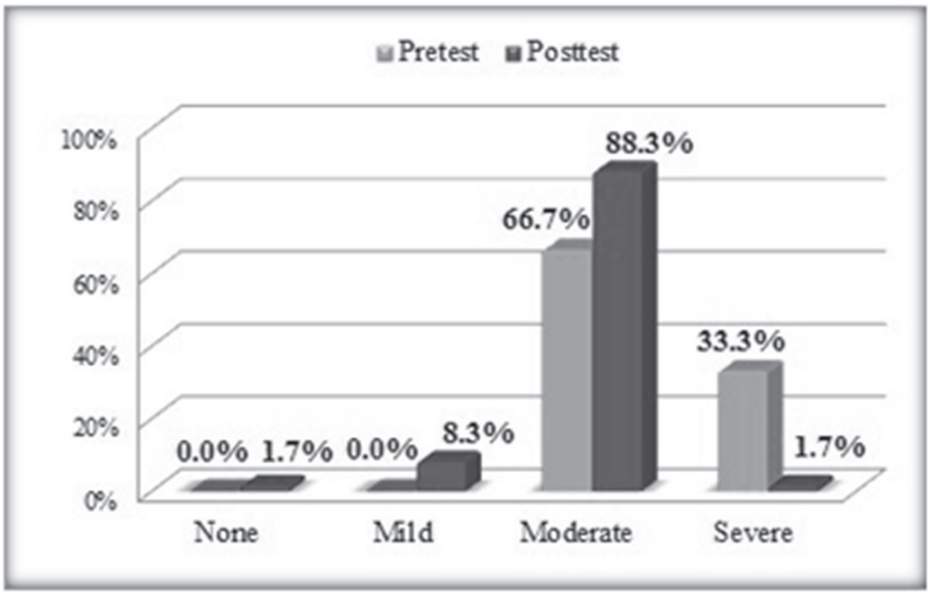

Figure 2: Description of Effectiveness of Intradialytic stretching exercise on reducing severity of muscle cramps

Table 2: Paired t-test for effectiveness of Intradialytic stretching exercise on reducing frequency of muscle cramps among patient undergoing haemodialysis N=60

	Mean	SD	t	df	p-value
Pretest	2.5	0.7	4.4	59	0.000
Posttest	2.2	0.8			

Table 2 denotes that the researcher applied paired t-test for comparison of pre-test and post-test frequency of muscle cramps among patient undergoing HD. Average frequency of muscle cramp was 2.5 in pre-test which decreased to 2.2 in post-test. T-value for this test was 4.4 with 59 degrees of freedom. Corresponding p-value was small (less than 0.05), the null hypothesis is rejected. Intradialytic stretching exercise was proved to be significant in reducing frequency of muscle cramps among patient undergoing HD.

Table 3: Paired t-test for effectiveness of Intradialytic stretching exercise on reducing severity of muscle cramps among patient undergoing haemodialysis N=60

	Mean	SD	t	df	p-value
Pretest	6.8	1.2	16.7	59	0.000
Posttest	5.2	1.2			

Table 3 denotes that the researcher applied paired t-test for comparison of pre-test and post-test severity of muscle cramps among patient undergoing haemodialysis. Average severity score of muscle cramp was 6.8 in pre-test which decreased to 5.2 in post-test. T-value for this test was 16.7 with 59 degrees of freedom. Corresponding p-value was small (less than 0.05), the null hypothesis is rejected. Intradialytic stretching exercise was proved to be significant in reducing severity of muscle cramps among patient undergoing HD.

Section IV: Analysis of data related to the association between pre-exercise level and post-exercise level and selected demographic variables

Fisher's Exact Test was used by the researcher to analyse the association between pre-exercise level and post-exercise level of muscle cramps and demographic variables.

Since p-values corresponding to age, occupation, length of HD, frequency of undergoing HD and alternative therapies for muscle cramp were small (less than 0.05), they were found to have significant association with frequency of muscle cramps.

Since p-values corresponding to age, gender, marital status, length of HD and frequency of undergoing HD were small (less than 0.05), they were found to have significant association with severity of muscle cramps.

DISCUSSION

This study was carried out to assess the effectiveness of intradialytic stretching exercises on reduction of muscle cramps among patients undergoing HD. Since the p-value was small (< 0.05) the findings led to the acceptance of the hypothesis that there was a significant reduction in muscle cramps after performance of intradialytic stretching exercises.

Similar results have also been reported in other studies which are in line with the results of this research. A study done by Chatrath H, et.al on the association of prevalence and morbidity with muscle cramps in patients during HD sessions. Sample size was 150 adult patients with muscle cramps who were selected by consecutive sampling technique. Cramps questionnaire and visual analogue scale were used to measure the muscle cramps. The result showed that 67% had muscle cramps during dialysis.[8]

Other literature also explains that stretching exercise is an excellent way of preparing the locomotor system for muscular efforts, which improve the movement capacity by the muscular elasticity and they help soothe the tiredness produced after an excessive training. Stretching exercise in which a specific muscle or tendon is deliberately flexed or stretched in order to improve the muscle's felt elasticity and achieve comfortable muscle tone. It is also used therapeutically to alleviate cramps[9]

Another similar study conducted by Gowthami, on the effectiveness of intradialytic stretching exercise on muscle cramps among patients undergoing HD in a selected hospital at Mangalore was consistent with the findings of the present study. A quasi experimental design was used in this study and purposive sampling technique was adopted. Sample size was 30 CRF patients. Modified Numerical Intensity Scale was used. The result revealed that there was a significant difference between the pre and post-test muscle cramps score in

the interventional group (50.297, p<0.05%). This study concluded that intradialytic stretching exercise was effective in reducing muscle cramps among CRF patients undergoing HD[10]

The limitations of this research were the short term of the intervention and the small sample size. It is recommended that similar studies be replicated with larger sample sizes and for an extended period of time.

CONCLUSION

Finally, the results showed that there was a significant reduction in muscle cramps experienced by patients undergoing HD after the performance of intradialytic stretching exercises. Accordingly, the use of such exercises can be implemented by healthcare professionals among patients undergoing HD which will make the patients' more comfortable and satisfied with the HD sessions.

Conflict of Interest: Nil Specific

Source of Funding: Self-finance throughout research.

Ethical Clearance : Ethical Clearance taken from Research and Advisory Committee

REFERENCES

1. Suddarth and Brunner. Textbook of medical surgical nursing, *Lippincott publication, Philadelphia,* 10th edition, 2002.
2. World Kidney Day: Chronic Kidney Disease. 2015; Available at URL: http://www.worldkidneyday.org/faqs/chronic-kidney-disease/.
3. C. P. Andrade, R. C. Sesso, Depression in Chronic Kidney Disease and Hemodialysis Patients, 2012. Vol.3, No.11, 974-978 Published Online November 2012 in SciRes Available at URL: http://www.SciRP.org/journal/psych
4. Hemodialysis. Available at URL: https://en.wikipedia.org/wiki/Hemodialysis
5. Danasu R Effectiveness Of Intra-Dialytic Stretching Exercise On Reducing Muscle Cramps Among Hemodialysis Patients At Sri Manakula Vinayagar Medical College And Hospital, Puducherry, International Journal of Information Research and Review Vol. 03, Issue, 06, pp. 2443-2445, June, 2016
6. Ulu, M. & Ahsen, A, (2015). Muscle Cramps During Hemodialysis .What can we Do? New Approaches for Treatment and Preventing. Eur J Gen Med 2015; 12(3):277-281
7. Judith Z. (2012). Review of Hemodialysis for Nurses and Dialysis Personnel. Elsevier Mosby,USA, 8th , edition.
8. Chatrath H. On association of prevalence and morbidity with muscle cramps in patients during hemodialysis session, Journal of AMJ, 5(2), 2005, 127- 128.
9. Caroline Kisner. Textbook of therapeutic exercise, F.A Davis Company, Columbia, 6th edition, 2012.
10. Gowthami. The effectiveness of intradialytic stretching exercise on muscle cramps among patients undergoing hemodialysis", Journal of TNNMUV, 20(1), 2012, 40-43.

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Effect of Family Care Education on Type-2 Diabetes Mellitus Management among Type-2 Diabetes Mellitus Patients in Urban and Rural Community

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ABSTRACT

Diabetes mellitus commonly referred as it is a group of metabolic disorder in which there is presence of high blood sugar level for a prolong period.

Aim:A Comparative study to assess the effectiveness of Family Care Education on Management of Type-2 Diabetes Mellitus among type -2 diabetes mellitus patients in selected urban and rural area.

Method: A Pre experimental (Pre test and post test)research design wasused for60 samples of type 2 Diabetes Mellitus (30 Urban,30 Rural) with fulfilled inclusive criteria selected by using Purposive sample technique. Instructional module was prepared on family care education. Pre test and Post test were conducted. in urban and rural area of Pune city to compared knowledge and Practice of urban and rural population.

Results: Analysis of data done by using descriptive and inferential analysis for urban group, average practices score in pretest was 32.7 which improved to 28.2 in posttest. T-value for this comparison was 9.4 with 28 degrees of freedom. Corresponding p-value was small (< 0.05), the null hypothesis is rejected. For rural group, average practices score in pretest was 31.1 which improved to 28.4 in posttest. T-value for this comparison was 10.8 with 29 degrees of freedom. Corresponding p-value was small (< 0.05), the null hypothesis is rejected.

Conclusion: Family care education was proved to be significantly effective in improving the practices of the type 2 diabetic mellitus patients in rural and urban area regarding type 2 diabetic mellitus.

Keywords: *Family Care Education, Type-2 Diabetes Mellitus, Urban & Rural Community.*

INTRODUCTION

Diabetes mellitus commonly referred as it is a group of metabolic disorder in which there is presence of high blood sugar level for a prolong period.[1]

Diabetes mellitus is a silent disease and is now recognized as one of the fastest growing threats to public health in almost all countries of the world. Every 5th person who suffers from diabetes in the world today is an Indian[2]

Diabetes mellitus, a condition in which the person has high blood glucose (blood sugar), either because insulin production is inadequate, or the body's cells do not respond properly to insulin, or both.[3]

Diabetes mellitus has following category,

Type 1 Diabetes Mellitus

Type 2 Diabetes mellitus

Present study is focused on type 2 Diabetes Mellitus mainly.

In 2013, it was estimated that over 382 million people throughout the world had diabetes (Williams textbook of endocrinology).Type 1 Diabetes - the body does not produce insulin. Approximately 10% of all diabetes cases are type 1 Diabetes - the body does not produce enough insulin for proper function. Approximately 90% of all cases of diabetes worldwide are Type-2 DM.[4]

It is characterized by high blood sugar, insulin resistance, and relative lack of insulin.[7] Common symptoms include increased thirst, frequent urination,

and unexplained weight loss. Symptoms may also include increased hunger, feeling tired, and sores that do not heal.[5]

Type 2 diabetes occurs mainly due to obesity and lack of exercise. Some people are more genetically at risk than others.[6] Type 2 diabetes makes up about 90% of cases of diabetes, with the other 10% due to diabetes mellitus type 1 and gestational diabetes.[1] In diabetes mellitus, type 1 is an absolute lack of insulin, due to an autoimmune induced breakdown of the islet cells in the pancreas.[11][12]

Diabetes mellitus can't be cured. Diabetes mellitus in children adolescents and old people can be controlled by an effective teaching and awareness programme about foot care, exercise, diet, complications early detection and prevention.[10]

Within the domain of diabetes, self-management involves (i) attending regular check up, and (ii) adherence to a physician-prescribed, medication, and lifestyle.[11] Self-management also improves other physiological parameters such as body weight, blood pressure, and the lipid profile and has positive outcomes on a wide range of psychosocial and economic aspects for the patient such as a decrease in levels of distress, anxiety and depression, optimal utilization of health-care services.[12-13]

Researcher find out that Present study improves knowledge and practices of peoples regarding prognosis, treatment and home care include Diet ,Exercise, Foot Care etc. in type 2 Diabetes mellitus in rural and urban population.

MATERIAL AND METHODS

Problem Statement : 'A Comparative study to assess the effectiveness of Family Care Education on Management of Type-2 DM among type -2 diabetes mellitus patients in selected urban and Rural area of Pune City.

Ethical Clearance: Obtained from RAC committee**.**

OBJECTIVES OF THE STUDY

1. To assess the Knowledge regarding Type-2 Diabetes Mellitus among Patient.
2. To assess the Practices among Type-2 Diabetes Mellitus Patients.
3. To identify the effectiveness of Family Care Education among Type-2 Diabetes Mellitus Patients.
4. To associate findings with demographic variables.

MATERIAL AND METHODS

- **Research design:** Pre experimental design (Pre test post test)
- **Sample size:** 60 samples (Urban 30 Rural 30) Type-2 DM Patient.
- **The study was divided into 4 phases**
- **Phase 1:** Check Knowledge regarding type 2 Diabetic Mellitus among patient
- **Phase 2:** Check practices regarding type 2 diabetic mellitus among patients
- **Phase 3:** Effectiveness of Family care education on knowledge among type 2 diabetic mellitus patients
- **Phase 4:** Check Comparison between effectiveness of Family care education on knowledge and practices of urban and rural type 2 diabetic mellitus patients.

Description of the tool and techniques:

- **Section I:** Checklist to elicit demographic characteristics of the samples.
- **Section II:** Structure questions to assess Knowledge of type 2 Diabetic Mellitus patient.
- **Section III:** Structure questions to assess practices of type 2 Diabetic Mellitus patient.

Validity and reliability of the tool:

Validation of tool had done with nursing experts, Biostatistician. The reliability was obtained by using split half method, Pilot study was conducted from 1st march to 8th march 2017.

Method of data collection:

The study was conducted at Mutha and Uravade village in rural and Wadarwadi in Urban area from Pune, India. Written permission obtained from subjects after explaining of the study. The data collected for 1 week. Socio economical data, Structured question of knowledge and practiced were used to collect the data from subject. Collected data was coded, tabulated and analyzed by descriptive and inferential statistical analysis by using SPSS software package

RESULTS

Organization of findings of the study:

Section I: Analysis of data related to identify the effectiveness of home care education among type 2 diabetic mellitus patients

Section II: Analysis of data related to assess the practices among type 2 diabetic mellitus patients

Section III: Analysis of data related to associate findings with demographic variables

Section I

Analysis of data related to the knowledge regarding type 2 diabetic mellitus among patients.

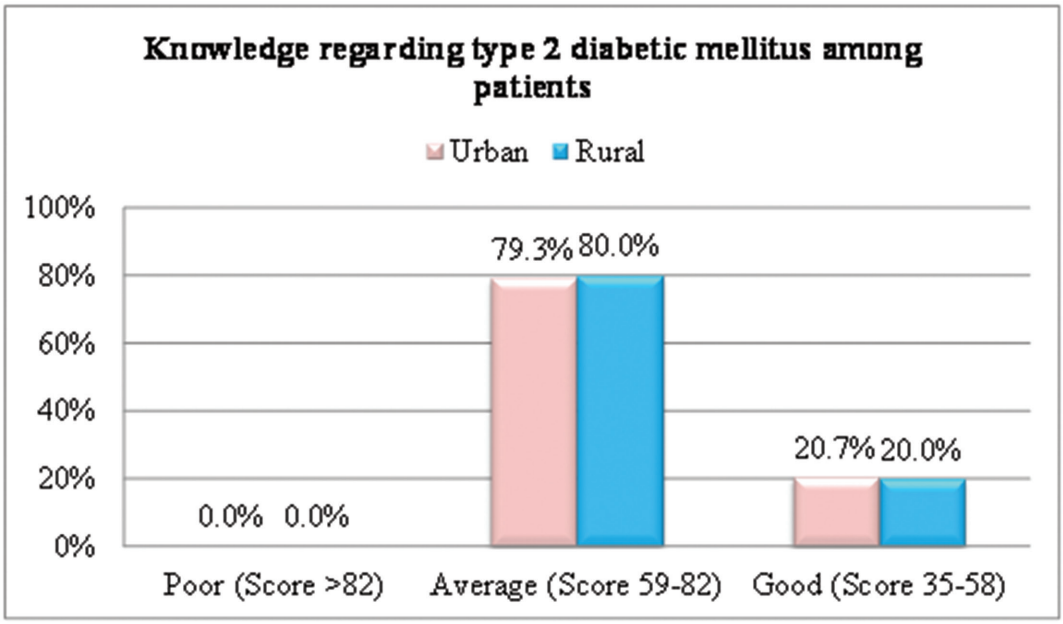

Figure 1 : Knowledge regarding type 2 diabetic mellitus among patients
N=60

In pretest, Figure 1 shows that 79.3% of the samples from Urban group had average knowledge (score 59-82) and 20.7% of them had good knowledge (score 35-58) regarding type 2 diabetic mellitus among patients. 80% of the samples from rural group had average knowledge (sc0re 59-82) and 20% of them had good knowledge (score 35-58) regarding type 2 diabetic mellitus among patients.

Section II

Table 1: Practices regarding type 2 diabetic mellitus among patients
N=60

Practices	Urban(n=30)		Rural(n=30)	
	Freq	%	Freq	%
Poor (Score >34)	3	10.3%	0	0.0%
Average (Score 27-34)	26	89.7%	30	100.0%
Good (Score 20-27)	0	0.0%	0	0.0%

Table 1 shows that In pretest, 89.7% of the samples from Urban group had average practices (score 27-34) and 10.3% of them had poor practices (score >34) regarding type 2 diabetic mellitus among patients. All of the samples from rural group had average practices (score 27-34) regarding type 2 diabetic mellitus among patients.

Section II

Analysis of data related to the effectiveness of home care education among type 2 diabetic mellitus patients

Table 2: Effectiveness of home care education on knowledge among type 2 diabetic mellitus patients N=60

Knowledge	Urban(n=30)				Rural(n=30)			
	Pretest		Posttest		Pretest		Posttest	
	Freq	%	Freq	%	Freq	%	Freq	%
Poor (Score >82)	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Average (Score 59-82)	23	79.3%	0	0.0%	24	80.0%	0	0.0%
Good (Score 35-58)	6	20.7%	29	100.0%	6	20.0%	30	100.0%

Table 2 shows that in pretest, 79.3% of the samples from Urban group had average knowledge (score 59-82) and 20.7% of them had good knowledge (score 35-58) regarding type 2 diabetic mellitus among patients. In posttest, all of them had good knowledge (score 35-58) regarding type 2 diabetic mellitus among patients.

In pretest, 80% of the samples from rural group had average knowledge (score 59-82) and 20% of them had good knowledge (score 35-58) regarding type 2 diabetic mellitus among patients. In posttest, all of them had good knowledge (score 35-58) regarding type 2 diabetic mellitus among patients.

This indicates that the knowledge of the type 2 diabetes mellitus patients from urban and rural groups improved remarkably after Family care education.

Table 3: Effectiveness of Family care education on practices among type 2 diabetic mellitus patients N=60

Practices	Urban(n=30)				Rural(n=30)			
	Pretest		Posttest		Pretest		Posttest	
	Freq	%	Freq	%	Freq	%	Freq	%
Poor (Score >34)	3	10.3%	0	0.0%	0	0.0%	0	0.0%
Average (Score 27-34)	26	89.7%	27	93.1%	30	100.0%	0	0.0%
Good (Score 20-27)	0	0.0%	2	6.9%	0	0.0%	30	100.0%

Table 3 shows that In pretest, 89.7% of the samples from Urban group had average practices (score 27-34) and 10.3% of them had poor practices (score >34) regarding type 2 diabetic mellitus among patients. In posttest, 93.1% of the samples from Urban group had average practices (score 27-34) and 6.9% of them had good practices (score >34) regarding type 2 diabetic mellitus among patients.

In pretest, all of the samples from rural group had average practices (score 27-34) regarding type 2 diabetic mellitus among patients. In posttest all of them had good practices (score 20-27) regarding type 2 diabetic mellitus among patients.

This indicates that the practices of the type 2 diabetic mellitus patients in urban and rural area improved remarkably after home care educations.

Table 4: Paired t-test for effectiveness of Family care education on knowledge among type 2 diabetic mellitus patients

Area	Knowledge	Mean	SD	T	Df	p-value
Urban	Pretest	65.7	7.5	18.0	28	0.000
	Posttest	39.5	1.1			
Rural	Pretest	62.9	4.7	26.8	29	0.000
	Posttest	39.1	0.9			

Researcher applied paired t-test for comparison of pretest and posttest knowledge scores.

Table 4 shows that For urban group, average knowledge score in pretest was 65.7 which improved to 39.5 in post test. T-value for this comparison was 18 with 28 degrees of freedom. Corresponding p-value was small (less than 0.05), the null hypothesis is rejected.

For rural group, average knowledge score in pretest was 62.9 which improved to 39.1 in posttest. T-value for this comparison was 10.8 with 29 degrees of freedom. Corresponding p-value was small (less than 0.05), the null hypothesis is rejected. Home care education was proved to be significantly effective in improving the knowledge of the type 2 diabetic mellitus patientsin urban and rural area regarding type 2 diabetic mellitus.

Table 5: Paired t-test for effectiveness of Family care education on practices among type 2 diabetic mellitus patients
N=60

Area	Practices	Mean	SD	T	Df	p-value
Urban	Pretest	32.7	1.6	9.4	28	0.000
	Posttest	28.2	2.0			
Rural	Pretest	31.1	1.5	10.8	29	0.000
	Posttest	28.4	0.5			

Researcher applied paired t-test for comparison of pretest and posttest practices scores.

Table 5 shows that for urban group, average practices score in pretest was 32.7 which improved to 28.2 in posttest. T-value for this comparison was 9.4 with 28 degrees of freedom. Corresponding p-value was small (less than 0.05), the null hypothesis is rejected. For rural group, average practices score in pretest was 31.1 which improved to 28.4 in posttest. T-value for this comparison was 10.8 with 29 degrees of freedom. Corresponding p-value was small (less than 0.05), the null hypothesis is rejected. Home care education was proved to be significantly effective in improving the practices of the type 2 diabetic mellitus patients in urban and rural area regarding type 2 diabetic mellitus.

Section III

Analysis of data related to association of knowledge and practices with demographic variables

Table 6: Fisher's exact test for association of knowledge with demographic variables

Demographic variable		Average	Good	p-value
Age	20 to 44 years	14	0	0.000
	45 to 64 years	33	8	
	65 years and older	0	4	
Gender	Male	20	8	0.197
	Female	27	4	
Education	Illiterate	26	7	0.091
	Secondary	18	2	
	Higher	3	3	
Occupation	Profession	2	1	0.006
	Semi profession	4	1	
	Clerical, Shop owner	5	1	
	Skilled worker	2	4	
	Semiskilled worker	10	1	
	Unskilled worker	7	4	
	Unemployed	17	0	
Socio-economic condition	Upper class	3	1	0.000
	Upper middle	14	11	
	Lower middle	28	0	
	Upper lower	2	0	
BMI	Normal	29	5	0.337
	Overweight	9	3	
	Underweight	9	4	
Type 2 DM when diagnosed	1-5 years	17	5	0.649
	6-10 years	28	6	
	11-15 years	2	1	
Habit	None	28	4	0.194
	Alcohol	7	2	
	Tobacco	2	2	
	Mishri	10	4	

Since p-values corresponding to age, occupation and socio-economic condition were small (less than 0.05), demographic variables age, occupation and socio-economic condition were found to have significant association with the knowledge of the patients regarding type 2 DM.

Fisher's exact test for association of practices with demographic variables

Since all the p-values are large (greater than 0.05), none of the demographic variables were found to have significant association with the practices of the patients regarding type 2 DM.

DISCUSSION

In present study, Researcher observed remarkable changes in before and after providing family care education in urban and rural area regarding Practice and Knowledge of type 2 Diabetic Mellitus

One of the study done by the Viral N Shah, P.K.Kamdar, and Nishit Shah conducted study on knowledge and attitude and practices of type 2 diabetes among patient of Gujarat they found that 40.33% are having average knowledge regarding sign and symptoms and complication and other having good knowledge.[16]

In present study researcher found that family care education found to be effective among type 2 Diabetic patient.

One of the study was done by Estibaliz Gamboa Moreno Alvaro Sanchez Perez,etalon Impact of self care education programme on patient with type 2 diabetes in primary health care in the Basque country they found that self care education is effective in the type 2 Diabetic Patient[17].

Conflict of Interest: Nil specific.

Finance: Self finance.

REFERENCES

1. Diabetes Blue Circle Symbol". *International Diabetes Fe*deration. 17 March 2006. Archived from the original on 5 August 2007
2. Diabetic care- Available on http://carediabetesjournals.org/search/% 20text_abstract_title%3 AIFG% 252c%2Bimpaired.
3. Diabetes Mellitus Symptoms, Causes &Treatment Available on http://www.medicalnewstoday.com/infro/diabetesmedicalnewstoday
4. Fasanmade, OA; Odeniyi, IA; Ogbera, AO (June 2008). "Diabetic ketoacidosis: diagnosis and management". African journal of medicine and medical sciences. 37 (2): 99–105.Available onPMID 18939392.
5. "Causes of Diabetes". National Institute of Diabetes and Digestive and Kidney Diseases. June 2014. Archived from the original on 2 February 2016. Retrieved 10 February 2016.
6. Maruthur, NM; Tseng, E; Hutfless, S; Wilson, LM; Suarez-Cuervo, C; Berger, Z; Chu, Y; Iyoha, E; Segal, JB; Bolen, S (19 April 2016). "Diabetes Medications as Monotherapy or Metformin-Based Combination Therapy for Type 2 Diabetes: A Systematic Review and Meta-analysis". Annals of Internal Medicine. 164: 740–51 doi:10.7326/M15-2650. Available onPMID 27088241. (Subscription required (help).
7. Cetinkunar, S; Erdem, H; Aktimur, R; Sozen, S (16 June 2015). "Effect of bariatric surgery on humoral control of metabolic derangements in obese patients with type 2 diabetes mellitus: How it works.". World journal of clinical cases. 3 (6): 504–9. doi:10.12998/wjcc.v3.i6.504.Available on PMC 4468896. PMID 2609037
8. Krentz AJ, Bailey CJ (February 2005). "Oral antidiabetic agents: current role in type 2 diabetes mellitus.". Drugs. 65 (3): 385–411. doi:10.2165/00003495-200565030-00005. Available on PMID 15669880. (Subscription required (help).
9. Melmed, Shlomo; Polonsky, Kenneth S.; Larsen, P. Reed; Kronenberg, Henry M. (eds.). Williams textbook of endocrinology. (12th ed.). Philadelphia: Elsevier/Saunders. pp. 1371–1435. Available on ISBN 978-1-4377-0324-5.
10. GBD 2015 Disease and Injury Incidence and Prevalence, Collaborators. (8 October 2016). "Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015.". Lancet. 388 (10053): 1545–1602. doi:10.1016/S0140-6736(16)31678-6.Available on PMC 5055577. PMID 27733282.
11. MacKay, Ian; Rose, Noel, eds. (2014). The Autoimmune Diseases. Academic Press. p. 575.Available on ISBN 978-0-123-84929-8. OCLC 965646175.
12. Gardner, David G.; Shoback, Dolores, eds. (2011). "Chapter 17: Pancreatic hormones & diabetes mellitus". Greenspan's basic & clinical endocrinology (9th ed.). New York: McGraw-Hill Medical. Available onISBN 0-07-162243-8. OCLC 613429053.

13. Saenz A, Fernandez-Esteban I, Mataix A, Ausejo M, Roque M, Moher D (20 July 2005). "Metformin monotherapy for type 2 diabetes mellitus.". The Cochrane database of systematic reviews (3): CD002966. doi:10.1002/14651858.CD002966.pub3. Available onPMID 16034881. (Subscription required (help)).

14. Malanda UL, Welschen LM, Riphagen II, Dekker JM, Nijpels G, Bot SD (18 January 2012). "Self-monitoring of blood glucose in patients with type 2 diabetes mellitus who are not using insulin.". The Cochrane database of systematic reviews. 1: CD005060. doi:10.1002/14651858.CD005060.pub3. Available on PMID 22258959.

15. Sujatha:Prevelance of Diabetes in india, http://www.mapsofindia.com/my-india/india/prevelance-of-diabetes.in.india.

16. Viral N. Shah, P. K. Kamdar, and Nishit Shah Assessing the knowledge, attitudes and practice of type 2 diabetes among patients of Saurashtra region, Gujarat , available on https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2822215/.

17. Estibaliz Gamboa Moreno Alvaro Sanchez Perez,et al Impact of a self-care education programme on patients with type 2 diabetes in primary care in the Basque Country

https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-13-521

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Development of Employee Engagement Model in a Tertiary Care Hospital

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ABSTRACT

In recent times, there has been increasing emphasis on the employee engagement and its significant role in the performance and productivity of employees and the organization outcomes. This becomes especially important in the healthcare sector since increased employee engagement may translate to improvement in quality of patient care and employee retention, among other hospital outcomes. The studies have found engagement level of nurses to be the number one variable correlating to mortality, even beating out the number of nurses per patient day and also shown a strong correlation between engagement and reducing staff turnover and absenteeism. This study focuses on measuring the engagement and retention levels among the nursing staff of tertiary care hospital and their association and develop a workplace model based on the findings. A cross sectional survey was conducted at the hospital over a six month period with sample size of 250, using standard NRC Picker Employee Experience Survey Questionnaire. Engagement scores were categorized into low, medium and high categories. Correlation analysis was done to identify the association between engagement and retention levels and the relative importance of various factors to the retention and engagement levels.

The mean engagement score at the hospital was found to be 31.57, which falls in the high level. Also, 95.2% of employees were in high engagement category, 2% in medium engagement group and 2.8% in low engagement group. There was a significant positive correlation found between the engagement and retention level, which was further corroborated independently by the retention data for last 6 years.

This study gauged quantitatively the engagement levels among the hospital nursing staff, and provided a means to determine association between the various factors and engagement as well as retention.

Keywords: *Employee Engagement, Hospital Performance, Employee Retention, Engagement Drivers.*

INTRODUCTION

There has been increasing interest in the area of employee engagement in recent years, as the notion of the employee engagement itself is a new one particularly in the healthcare industry. There's a newfound realization that employees in any organization make a huge difference when it comes to innovation, competitiveness and organizational performance, thus the emphasis on engaging employees.

"Engagement first entered the academic lexicon in the social psychological work of Kahn, who proposed that personal engagement occurs when 'people bring in or leave out of their personal selves during work-role performances'. These behaviours are defined by physical, cognitive and emotional degrees of themselves during work-role performances. So, engaged employees express their selves via physical involvement, cognitive awareness and emotional connections. On the other hand, disengaged employees 'uncouple' themselves from their roles, suppressing personal involvement in physical, cognitive and emotional aspects of work."[1]

"Wellins and Concelman suggested that engagement is an amalgamation of commitment, loyalty, productivity and ownership. They further said that engagement is the illusive force that motivates employees to higher (or lower) levels of performance. A recent study by Tower Watson on 50 firms over a period of one year found there was an increase of 19% in operating income and about 28% earnings per share (EPS) with the result of high

employee engagement. Inversely, organizations with low level of engagement among employees experienced about 32 % drop in operating income and 11 % decline in EPS."[2]

"A recent research by Harvard Business Review also reinforced that employee engagement is becoming the center of attraction among many organizations. Based on research, it was realized that 71% of the people have the opinion that employee engagement is very crucial for an organization."[2] "Casual observation suggests that much of the appeal to organizational management is driven by claims that employee engagement drives bottom-line results."[3] Evidence has accumulated on the basis of quantitative studies to suggest that high levels of engagement are associated with high levels of hospital performance, of which retention is one of the quintessential parameter. Retention is generally defined as a process in which the employees are encouraged to remain with the organization for a maximum period of time fathomable. "It is estimated that disengaged employees cost U.S. organizations a significant amount of money – between $250 and $350 billion a year. According to a survey done around 10 years ago of about 600 CEOs from countries around the world, improving employee engagement is one of the most important problems being faced by management."[4]

One of the largest and widely unknown costs an organization faces is employee turnover. Effective employee retention is a systematic effort by employers to create and foster an environment that encourages current employees to remain to remain employed by having policies and practices in place that address their diverse needs. Retention of key employees is critical to the long-term health and success of any organization. It is a known fact that retaining the best employees ensures in turn customer satisfaction, increased sales etc. and deeply imbedded organizational knowledge and learning.

Engagement and Retention

It is very much assumed that the employees who are highly engaged will stay longer in an organization and also contribute more compared to the less engaged ones. This is corroborated by various studies that have concluded that more engaged employees are better able than their less engaged colleagues to achieve organizational goals. "One of the major human resource goals of any healthcare organization is to retain competent staff. Turnover is costly. It is widely assumed that more-engaged employees stay and contribute"[5]. Studies have pointed out the engagement level as being the single most important factor affecting employee retention and turnover. Graham Lowe found that "90% of highly engaged employees plan to stay with the organization, at least for the near future, in contrast to only 52% of low engaged employees how plan to stay with current employer"[5]. Thus the current studies have found a direct correlation between the level of engagement and the retention level.

Aim

To study the correlation between employee engagement and employee retention in a tertiary care hospital.

OBJECTIVES

1. To assess the level of employee engagement
2. To analyze the relationship between employee retention and employee engagement.
3. To develop a employee engagement model for a tertiary care hospital

MATERIAL AND METHODS

Study Design

A cross-sectional survey was among the nursing staff at a tertiary care hospital. The time period of the study was six months.

Questionnaire Design

The sample size consisted of 250 staff nurses out of total 570. A semi structured pro forma was designed for the study with information regarding socio-demographic data like age, gender, marital status, department, job role and number of years of experience in the hospital. The standard NRC Picker Employee Experience Survey Questionnaire was used which determines engagement drivers, individual outcomes and organizational outcomes. Work environment, job characteristics and organizational supports are the engagement drivers that are measured by the questionnaire. Quality, patient safety, low employee turnover, enrolment, organizational stature, employee productivity and costs are the organizational out- comes in the model.

This survey was mainly focusing on employee retention as an organizational outcome. The employee experience survey (EES) questions the employees in 36 features of their job, training and development

opportunities, their team, their supervisor, senior management and the organization supports its employees. In addition there are 11 questions on various factors related to employee retention. EES engagement scale was constructed based on 5 point Likert scale. Statistical Package for the Social Sciences (SPSS) tool was used for calculation of Cronbach's reliability alpha, which came to be 0.93.

Data Collection

Ethical approval was obtained from the Hospital before starting the study. The nursing faculty of the institute was contacted in person, requested for their participation in the study. Hard copies of the questionnaire were distributed to nursing staff and asked to return the filled in questionnaire.

Analysis

The employee engagement scores were categorized into low, medium and high levels, based on the distribution of scores. The high-engagement category comprises of individuals with responses of four or five on the five point Likert scale (greater than or equal to 24 out of 36). The medium-engagement category comprises scores between 18 and 23. The low-engagement group scored 18 or lower.

Correlation analysis was done to identify if there is an association between engagement score and employee retention as an organizational outcome.

Analysis of the significant engagement drivers and the relation of employee engagement with employee retention was done to arrive at a proposed model for employee engagement in a Tertiary Care Hospital.

Findings

Completed responses were received from 250 nursing employees. The mean engagement score for all employees was found to be 31.57. The cumulative employee engagement scores are captured in Table 1. Out of 250 responses, 238 employees reported high engagement score, 5 fall in medium engagement and 7 in low engagement category.

Table 1: Survey results–Cumulative employee engagement scores

Engagement Category	Number of employees
High	238
Medium	5
Low	7

The number of participants with age < 25 years was 53 (21.20%), between 25-30 years was 115 (46%), between age 30 to 35 years was 56 (22.40%), between 35 to 40 years was 17 (6.80%) and age > 40 years was 9 (3.60%). The number of male and female participants was 41 (16.40%) and 209 (83.60%) respectively. The number of married and unmarried participants was 167(66.80%) and 83(33.20%) respectively.

The mean score for job characteristic dimension was 3.92, training and development dimension was 4.01, work team dimension was 3.97, immediate supervisor dimension was 3.91, senior management dimension was 4.02 and organizational support dimension was 4.01, as shown in Figure 1.

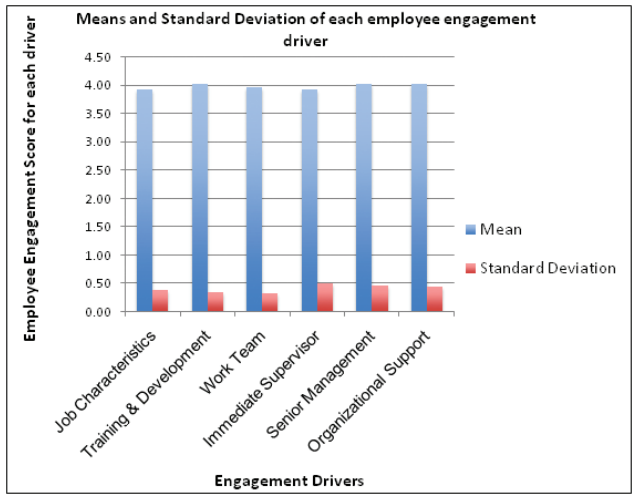

Figure 1: Means and Standard Deviation of each employee engagement driver

Pearson correlation analysis was individually used to gauge the relationship between engagement dimensions and the engagement level. In case of Job Characteristics, there was found to positive and significant correlation with coefficient as 0.48 and p-value less than 0.05. The training and development dimension likewise has positive and significant correlation with engagement (correlation coefficient of 0.52 with p-value less than 0.05). Similarly, for work team which has positive significant correlation with engagement (coefficient of 0.55, p-value less than 0.05). The rest of the engagement dimensions were found to be positively correlated but not so significant, for e.g. Immediate supervisor (coefficient of 0.41), Senior management (coefficient of 0.60), Organizational support (coefficient of 0.55), each of them having p-value greater than 0.05. Also, there was no significant association found between engagement and the age/experience of employees surveyed.

The retention level was gauged by duration of time the employee has decided to stay with current employer. There were 9 employees (3.60%) who've decided to stay less than 6 months with the organization, 26 employees (10.40%) who've decided to stay 6 months to 1 year, 64 employees (25.60%) who've decided to stay 1 to 3 years, 56 employees (22.40%) who've decided to stay 3 to 6 years, 95 employees (38%) who've decided to stay more than 6 years. Assigning 5-point Likert scale to the responses, the mean retention level was found to be 3.80.

Pearson correlation analysis was done to identify the relation between employee engagement and retention. There is found to be positive and significant correlation between the two with correlation coefficient as 0.16 and p-value less than 0.05. The comparative statistics for employee engagement and retention is shown in Figure 2.

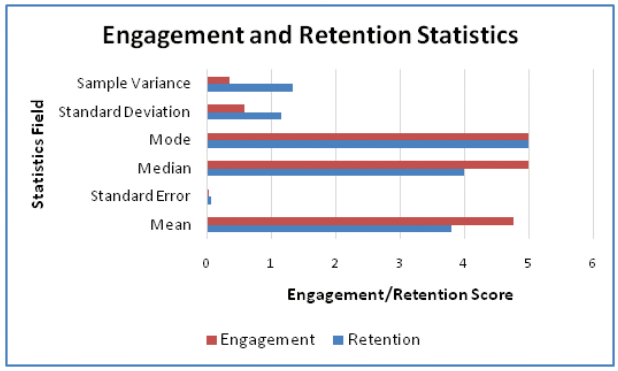

Figure 2: Engagement and Retention statistics

For retention, two parameters i.e. 'compensation' and 'workload' there was a positive and significant relationship with employee retention (coefficient 0.41 and 0.39 respectively), whereas other parameters had not much of an effect.

DISCUSSION

The current study showed that the maximum number of participants is lying in the high engagement category, with minimal number in medium and low category. The study also indicates that high engagement and retention are positively correlated, which is consistent with other such studies conducted.

"In particular, as per a similar study by Graham Lowe involving over 10,000 employees in 16 Ontario hospitals, the overall engagement level of the study group was in the medium engagement group with 33% of respondents lying in the low engagement group, 39% in the medium engagement group and 29% in the high engagement group. They have considered the percentage of positive answers (rating of 4 or 5) for each of the 36 evaluative items in the questionnaire."[10]

The current study indicates that the concept of engagement is relevant to healthcare industry and also that engagement-retention correlation is positive in healthcare, as is the case with other industries. Also, there has been no prior work studying the relationship between employee engagement and retention levels by statistically correlating (using Pearson correlation technique) the various engagement and retention factors and levels.

CONCLUSION

Engaging employees is a significant aim of any organization, which is essential to achieving its organizational objectives and outcomes, since a highly engaged workforce is imperative to a well functioning organization. This is particularly significant in the context of Indian healthcare scenario where very less such studies have been conducted. More significant is the gap in statistically establishing the relationship between employee engagement and retention, particularly between the individual engagement parameters and retention outcomes.

The study conducted among the nursing staff provides an opportunity to analyze the employee engagement and retention levels among the nursing staff of the hospital. The study finds high engagement levels among the nursing staff, with 95% employees found to be in the high engaged category. The mean engagement score is found to be 31.57, which falls under high engagement category. There is found to be positive correlation between the engagement and the retention levels as gauged by the survey responses. The fact is corroborated independently by the attrition data collected for the last 5 years. A further analysis of the engagement levels with the individual engagement parameters shows strong association between engagement and the parameters such as job characteristics and work team, both of these having high correlation values. The correlation level between the engagement score and demographic data collected such as age and experience level is seen to be low level of positive correlation. The study also compares the engagement level with individual retention parameters and finds positive correlation between factors such as compensation and work stress.

Proposed Employee Engagement Model

The engagement model is developed based on the research findings (Figure 3). The factors of engagement are identified as consisting of Job, Organization, Immediate Supervisor, Senior Management, Training and Development and Work Team. These can be seen on the left side of the model. These factors are categorized primarily into 3 major engagement dimensions viz. Emotional, Rational and Behavioural [Graham Lowe, 2015] Based on these factors and dimensions, the employee engagement scale is calculated. The employee retention is one of the major engagement outcomes, which is positively correlated with employee engagement, implying that the increase in engagement results in corresponding increase in retention. This further results in outcomes such as low absenteeism, high performance, low turnover and high productivity.

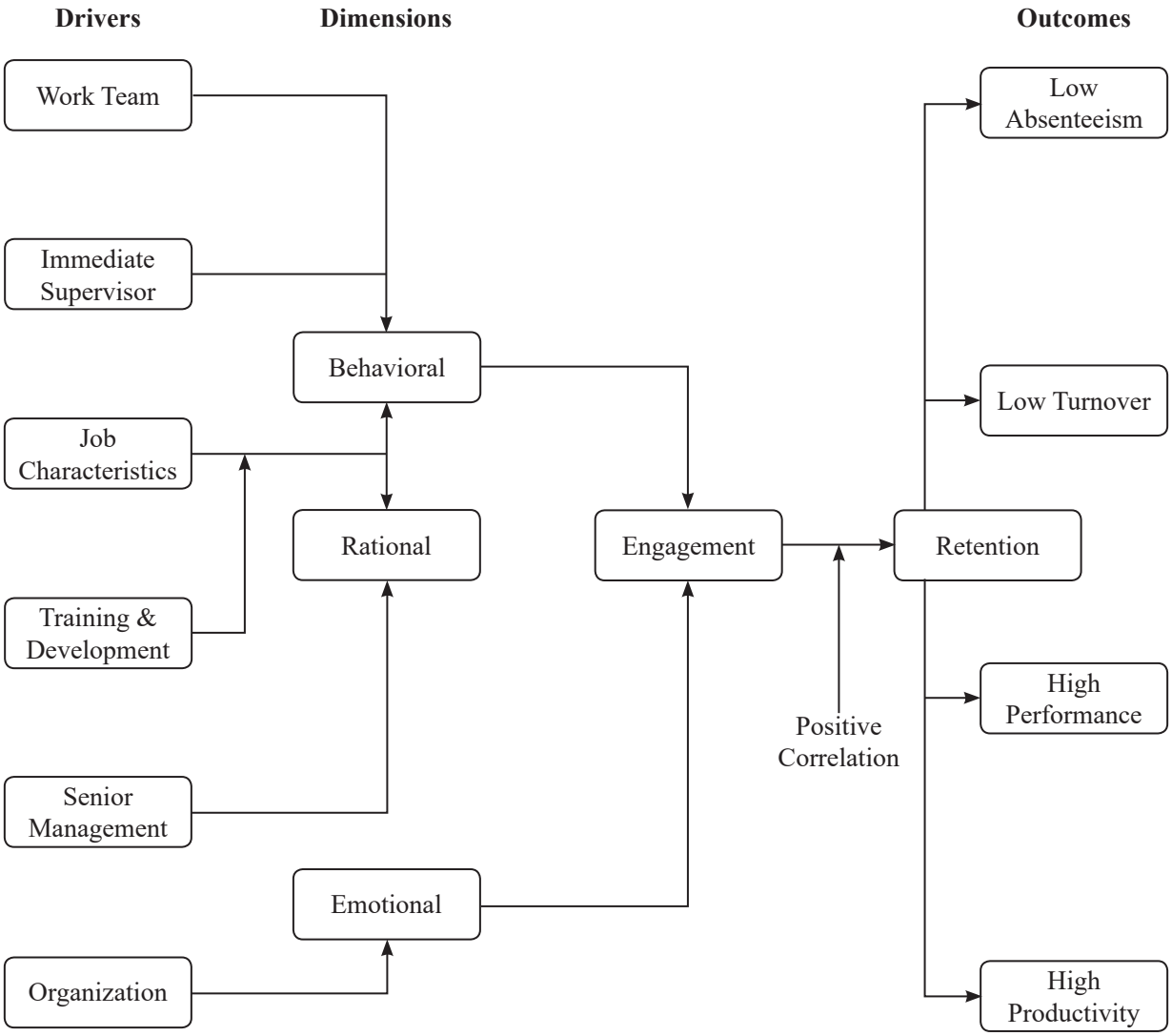

Figure 3: Proposed Model of Engagement

RECOMMENDATIONS

The engagement level found out in the study is high, which is true for retention level also. The results auger well for the hospital management since engagement level is high and attrition is low. Nevertheless, the engagement model developed in the study is an important one from the perspective of gauging the causes and effect of various engagement/retention factors and outcomes.

In case of lesser engagement or retention values in hospital, the model can be revisited and model analysis can be followed to find out the exact nature of problem.

If any of the outcomes becomes less, the model can be looked at to see which of the engagement factors is causing the same and this can be rectified.

The engagement study can be conducted periodically to identify the effect of various HR related nursing policies, if introduced in between. Thus, it can suggest improvement areas that can improve the work environment.

Conflict-of-Interest Statement: No conflict of interest exists.

Source of Funding: The work is self-funded.

Ethical clearance: The study was focused only on the nursing staff, and patients' details were not collected, so requirement for informed consent is not applicable. Also the nursing staff survey results were collected anonymously, with the consent of nursing staff to collect their demographic data and responses.

Since there were no experiments on human and animal subjects, the statement of Human and animal rights is not applicable.

REFERENCES

1. Catherine Trussa, Amanda Shantzb, Emma Soanec, Kerstin Alfesd and Rick Delbridgee (2013). Employee engagement, organizational performance and individual well-being: exploring the evidence, developing the theory, *The International Journal of Human Resource Management*, Vol. 24, No. 14, 2657–2669, doi: 10.1080/09585192.2013.798921
2. Soni Agrawal (2016). Factors influencing employee engagement: A study of diverse workforce, Retrieved from: http://apps.aima.in/ejournal_new/articlesPDF/Soni-Agrawal.pdf
3. William H. Macey, Benjamin Schneider (2008). The Meaning of Employee Engagement, Industrial and Organizational Psychology, doi: 10.1111/j.1754-9434.2007.0002.x
4. Mark Attridge (2009). Measuring and Managing Employee Work Engagement: A Review of the Research and Business Literature, Journal of Workplace Behavioural Health, doi: 10.1080/15555240903188398
5. Graham Lowe (2015). How Employee Engagement Matters for Hospital Performance, Health Human Resources, doi: 10.12927/hcq.2012.22915
6. Dilys Robinson Sarah Perryman Sue Hayday (2004). The Drivers of Employee Engagement, IES, Available at: http://www.employment-studies.co.uk/system/files/resources/files/408.pdf
7. Gerard H. Seijts, Dan Crim (2006). What engages employees the most or, The Ten C's of employee engagement, *Ivey Business Journal*, doi: 10.12691/jbms-3-5-1
8. Retrieved from: http://www.managementstudyguide.com/drivers-of-employee-engagement.htm
9. Stephen Young, Retrieved from: https://www.towerswatson.com/en/Insights/Newsletters/Europe/HR-matters/2014/12/What-are-the-top-drivers-of-employee-attraction-retention-and-
10. Srinivas Goud Bulkapuramú, Laxmitej Wundavalli, Kanthi Sagar Avula, T Reddy K (2015). Employee engagement and its relation to hospital performance in a tertiary care teaching hospital, *Journal of Hospital Administration*, doi: 10.5430/jha.v4n1p48

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Systematic Review on Quality of Life among Caregivers of Children with Autism Spectrum Disorder

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ABSTRACT

The term Autism spectrum or autism spectrum disorder describes a range of conditions classified as neuro developmental disorders in the fifth and most recent revision of the American Psychiatric Association's diagnostic and statistical manual of mental disorders (DSM-5) published in 2013. Individuals diagnosed with autism spectrum disorder must present two types of symptoms such as deficits in social communication, social interaction and restricted, repetitive behavior, interests or activities. The objective was to gain knowledge on the quality of life among caregivers of children with Autism spectrum disorder. This article presents the review of literature relating to the studies carried out by various researchers in the area of quality of life among caregivers of children with Autism spectrum disorder.

Keywords: *Autism spectrum disorder, quality of life, Caregivers*

INTRODUCTION

The term Autism spectrum or autism spectrum disorder describes a range of conditions classified as neurodevelopmental disorders in the fifth and most recent revision of the American Psychiatric Association's diagnostic and statistical manual of mental disorders (DSM-5) published in 2013. Individuals diagnosed with autism spectrum disorder must present two types of symptoms such as deficits in social communication, social interaction and restricted, repetitive behavior, interests or activities [1].

Increasing demands tend to impede the quality of life of caregivers. The World Health Organization had defined QOL as the "perception of [an individual's] position in life in relation to their goals, expectations, standards and concerns" [2].

Quality of life is taken as an important component. It is a multidimensional concept encompassing various domains of functioning [3].The present study consists of a systematic review of scientific literature on the quality of Life among caregivers of children with Autism Spectrum Disorder.

Title of the review

Systematic review on quality of life among caregivers of children with autism spectrum disorder

Aim of the review

Aim of the review was to assess the quality of life among caregivers of children with Autism spectrum disorder.

Objectives of the review

- To review the related studies and other articles regarding the quality of life among caregivers of children with Autism spectrum disorder.

METHODS

Quantitative method and descriptive approach were used for this review. The need for the review was identified, eligibility criteria for the papers to be reviewed were prepared, according to which the review was done by using different search strategies, adopting the interfaces and databases. The collected data was noted for clarity and then used for the review.

Eligibility criteria

The review was done to identify the articles that explicitly describe the quality of life among caregivers of children with Autism spectrum disorder.

Inclusion criteria

- Studies related to the assessment of quality of life among caregivers of children with Autism spectrum disorder.
- Literature published in English language.
- Literature published from the year 2012-2016.

Exclusion criteria

- Studies on children with Autism spectrum disorder above 18 years of age.
- Studies that assess the quality of life among children with autism spectrum disorder.

Literature search strategies and data source

A systematic literature search was conducted on the electronic databases using Pubmed, ScienceDirect, ResearchGate, Google Scholar, Springer, Sage journals, Wiley online library.

The review was restricted to 2012-2016. Reviews were mainly collected by using the following key words ;

- Quality of life
- Caregivers of children with ASD
- Parents of children with ASD
- Autism spectrum disorder or ASD

Data extraction and quality assessment

The extracted data were assessed based on the eligibility criteria. The studies were evaluated based on the relevance, appropriateness, clarity and methodology. From the comprehensive search results, the author screened the specific and relevant material on the topic. In total, 50 full text studies, 2 systematic reviews and 8 abstracts were obtained for the quality of life among caregivers of children with Autism spectrum disorder. While considering the inclusion and exclusion criteria of this review, 41 studies and 7 abstracts were excluded as they were not relevant and did not meet the inclusion criteria of the study. 11 full text studies and 1 abstract were included.

Data analysis

The data analysis considered of three stages;

- Developing the preliminary synthesis of studies
- Exploring the studies based on the various objectives:
- Summarizing the findings

Stage 1: Preliminary synthesis of studies

A Gesalt approach of getting cognitive cluster of studies was used. A preliminary analysis was used. A preliminary analysis was done by tabulating and translating the data. The following data was extracted and tabulated on the Author and year, Country, Diagnosis, Setting, Study design, Sample size, Tool and Findings.

Stage 2: Exploring the studies based on the objective

The studies were explored to gather data on the objective.

Stage 3: Summarizing the findings

Data was then summarized.

Table 1: includes studies assessing quality of life among caregivers of children with Autism spectrum Disorder

S. No	Author & year	Country	Diagnosis	Setting	Study design	Sample size	Tool	Findings
1.	Kheir, N., Ghoneim, O., Sandridge, A.L., Al-Ismail, M., Hayder, S. and Al-Rawi, F [2012] [4]	Qatar	ASD	Child rehabilitation clinics in Qatar	Cross sectional exploratory study	n=98 56- caregivers of children with ASD and 42-normal children	Demographic questionnaire QOL- Lebanese Arabic version of the Standard Recall Short Form	No significant difference between quality of life domains between the two groups of caregivers (with autism and without autism), but caregivers of autistic children rated their health as poor and likely to get worse
2.	Yamada, A., Kato, M., Suzuki, M., Suzuki, M., Watanabe, N., Akechi, T. and Furukawa, T.A [2012][5]	Japan	PDD's	Outpatient pediatric Neuropsychiatry clinic of the Toyo hashi Municipal hoapital	Data collected from previous study done by the author	n= 147 mothers and 122 fathers of 158 children with PDD'S	MOS-36 item short form health survey (SF-36) to measure QOL Parents Personality by the (NEO five factor inventory) Marital relationship by the Intimate bond measure	Mothers of children with PDDs seem to have lower QOL than those of the Japanese general population especially in mental domains
3.	Charatcharungkiat, N. and Wacharasindhu, A_ [2013][6]	Thailand	ASD	Child and adolescent psychiatric outpatient clinic in King Chulalongkorn Memorial Hospital and Yuwaprasartwaithayopathum Hospital	Descriptive study	96 caregivers of children with ASD	Demographic questionnaire WHOQOL-BREF-THAI questionnaire social support questionnaire	Quality of life, physical and social relationships and environment aspects among caregivers were at moderate levels while the quality of life in the psychological aspect was at high level.

4.	Hoefman, R., Payakachat, N., van Exel, J., Kuhlthau, K., Kovacs, E., Pyne, J. and Tilford, J.M et.al [2014][7]	USA	ASD's	Developmental center, Little rock, Arkansas and outpatient psychiatric clinic at Columbia university Medical center, New york		224 primary caregivers of children with ASD	Child health questionnaire Primary caregivers health questionnaire included Health utility instruments- Euro Qol descriptive system Mental health was assessed by CES-D and caregiving was measured by Carer Qol	Having relational, mental health, daily activity, financial or physical health problems were associated with more subjective burden of caring, lower family Qol and lower overall well-being.
5.	Baghdadli, A., Pry, R., Michelon, C. and Rattaz, C [2014][8]	France	ASD's	46 autism evaluation clinics	Cross sectional study	152 mothers of adolescents with ASD's	Par–DD-QoL, Adaptive behaviors were assessed using the three subscales of the Vineland adaptive behavior scale and Behavioral problems were evaluated using four behavioral domains	The results suggested that that the increase in autism severity predicts decreased parental QoL.
6.	Dardas, L.A. and Ahmad, M.M [2014][9]	Jordan	ASD's	licensed special education centers for Autistic Disorder was obtained from the Ministry of Social Development in the country		184 parents (114 mothers and 70 fathers)	The WHOQOL-BREF Stress (parenting stress index-short form (PSI-SF), Coping strategies (ways of Coping Checklist-Revised (WCC-R), and demographic characteristics	Results of this study revealed that fathers and mothers did not differ significantly neither in the perception of their overall QoL nor in the QoL sub-domains.

7.	Ji, B., Zhao, I., Turner, C., Sun, M., Yi, R. and Tang, S. [2014][10]	China	ASD's	15 autism centers in Hunan Province of China,	Cross sectional study	273 caregivers	Socio-demographic data was collected The Chinese version of the SF-36 (the 2nd edition) was adopted as a measure of HRQOL (Liu & Huang, 2010). Family functioning was assessed using McMaster Family Assessment Device (FAD) Simplified Coping Style Questionnaire social support was measured by Multidimensional Scale of Perceived Social Support. Caregiver burden was assessed by Caregiver Burden Index.	Results demonstrate that family functioning, coping style, social support, caregiver burden are predictors of HRQOL in caregivers of children with ASD, and these predictors correlated with each other.
8.	Kuhlthau, K., Payakachat, N., Delahaye, J., Hurson, J., Pyne, J.M., Kovacs, E. and Tilford, J.M., [2014][11]	USA	ASD's	2 sites of the Autism Speaks Autism Treatment Network (AS-ATN) including a developmental center in Little Rock, Arkansas and an outpatient psychiatric clinic, New york		224 parents of children with autism spectrum disorder	SF-6D (Six Dimension Short-Form Health Survey) and EQ-5D (Five Dimension EuroQol) was used to assess the HRQOL. CarerQol instrument using a situation (CarerQol-7D) with a visual analog scale (rating scale) for general well-being (CarerQol-VAS).	Results showed that HRQoL scores were slightly worse than from those in normative populations especially related to stress and mental health.

							The Center for Epidemiologic Studies Depression Scale (CES-D) was used to measure the depression symptom in the past week Qualitative HRQoL data was collected by focus group discussions.	
9.	Tung, L.C., Huang, C.Y., Tseng, M.H., Yen, H.C., Tsai, Y.P., Lin, Y.C. and Chen, K.L [2014][12]	Taiwan	ASD's	2 hospitals, 2 pediatric rehabilitation clinics, and a developmental center in Taipei and Tainan, two cities in Taiwan		82 caregivers	World Health Organization Quality of Life (WHOQOL-BREF) (Yao, Chung, Yu, & Wang, 2002) was used to assess the HRQOL. The Chinese version of the Parenting Stress Index short form (PSI/SF-C) (Yeh, Chen, Li, & Chuang, 2001) was used to measure the parenting stress. childhood autism rating scale (CARS) was used to assess the severity of autism The Chinese version of the Strengths and difficulties questionnaire (SDQ-C) (Du, Kou, & Coghill, 2008), used to assess behavioral problems and strengths contains five subscales	Results showed that severity of autism, behavior problems, and parenting stress individually had low to moderate associations with HRQOL.

10.	Perumal, V., Veeraraghavan, V. and Lekhra, O.P. [2014][13]	India	ASD's	Ergocare Health Rehabilitation Centre and Occupational Therapy Research Academy, India	Cross sectional study	140 parents (73 mothers and 67 fathers) of 54 Children with autism, 38 children with physical disabilities and 48 healthy children	Socio demographic Performa was filled Indian Scale for the assessment of Autism (ISAA), to diagnose the severity of autism. Quality of life was assessed using the WHOQOL-BREF scale. The Functional Ambulation Classification System categorizes according to basic motor skills	Results showed that Parents with Children with Autism Spectrum disorder showed significantly lower quality of life compared with parents of healthy children and parents of children with physical disabilities in all the four domains of WHOQOL-BREF.
11.	Suzumura. S. [2015][14]	Japan	High functioning PDD's	Psychiatric outpatient clinic of Tokyo Metropolitan Ohtsuka Hospital, Japan Three kindergartens in Toshima ward where Tokyo Metropolitan Ohtsuka Hospital is located.		60 mothers. 30 mothers of preschoolers with high-functioning pervasive developmental disorders and 30 mothers of developmentally average preschoolers as the control group	HRQOL was assessed using the 36 Health Survey Questionnaire, version 2 Child's behavior characteristics were assessed using the strength and difficulties questionnaire. DSM-IV-TR Autistic Disorder diagnosis was used to assess the child's autistic traits.	Results showed that Mothers in the study group were distressed mentally and physically. Findings also showed that physical and mental were significantly related to the behavioral problems and not related to the child's autistic traits.
12.	Asi, K.Y [2016][15]	Saudi Arabia	ASD's	Parents of children enrolled in the autism program.	Descriptive and survey approach	100 parents of children with Autism spectrum disorder	The quality of life instrument consisted of (50) paragraphs, distributed to six domains	Results are justified that parents having children with severe and moderate disability face pressure compared to those with mild disability.

RESULTS

The articles included in the review are tabulated in Table 1: Author and year of publication, Country, Diagnosis, Setting, and Study design, Sample size, Tool and Findings.

Most of the studies were done by foreign authors 91.66% (11/12). One was done in Indian setting 8.33% (1/12). Majority of the study findings reveled poor quality of life among

Caregivers 41.66% (5/12). Others showed moderate quality of life 16.66% (2/12). No difference in quality of life was revealed by 16.66% (2/12) studies. Predictors of health related quality of life correlated with each other 8.33% (1/12). 8.33% (1/12) study showed that severity of autism had low to moderate association with health related quality of life among caregivers. Parents having children with severe and moderate disability face pressure compared to those with mild disability8.33 % (1/12). Majority of the studies had no control group 58.33% (7/12) and 41.66% (5/12) studies had control group.

DISCUSSION

The systemic review was intended to assess the quality of life among caregivers of children with Autism spectrum disorder. The review of 12 studies assessed the quality of life among caregivers. In the current review majority of the studies revealed poor quality of life among caregivers of children with Autism Spectrum Disorder.

Yamada, A., Kato, M., Suzuki, M., Suzuki, M., Watanabe, N., Akechi, T. and Furukawa, T.A [2012] conducted a study to evaluate the quality of life (QOL) of parents of children with PDDs, and to explore the correlates of their QOL. A consecutive sample of parents of children with PDDs aged 6 to 15 participated in the study. 147 mothers and 122 fathers of 158 children with PDDs. Results showed that mothers of children with PDDs seem to have lower QOL than those of the Japanese general population especially in mental domains.

Perumal, V., Veeraraghavan, V. and Lekhra, O.P. [2014] conducted a cross sectional study to evaluate the QOL in parents of Children with autism, physically disabled as compared to a control group. The Ergocare Health Rehabilitation Centre and Occupational Therapy Research Academy, India. The sample consisted of 140 parents (73 mothers and 67 fathers) of 54 Children with autism, 38 children with physical disabilities and 48 healthy children. Results showed that Parents with Children with Autism Spectrum disorder showed significantly lower quality of life compared with parents of healthy children and parents of children with physical disabilities in all the four domains of WHOQOL-BREF.

LIMITATIONS

Most of the studies were from foreign countries

CONCLUSION

Quality of life is very imperative component. As caregivers are involved in the direct care of children, it is essential to focus on the Qol of caregivers. This review assesses the Qol of caregivers with Autism spectrum disorder. Pediatric nurses at various settings can develop interventions and nurse led training programs to help caregivers by improving their quality of life. Nurses along with other clinicians and therapists can also assess the factors that can affect the Qol of caregivers and provide them with adequate support such as financial aid, reducing stress, adopting coping strategies, and making them aware of the available health services.

RELEVANCE TO CLINICAL PRACTICE

Nurses at various settings need to understand the needs of children and most importantly the caregivers as they have the most pivotal role in helping the child develop holistically. To provide caregivers with sound health and better quality of life, Nurses have to extend their care prioritizing the needs of the caregivers. Qol is a vital component that the Nurse needs to assess so as to help caregivers buffer those factors that affect the Qol.

Source of Funding : Self funded

Conflict of Interest : Nil

Ethical consideration : Ethical clearance was obtained from the institutional ethics committee.

REFERENCES

1. Autism spectrum fact sheet. DSM 5. Org. American psychiatric publishing. 2013

2. Whoqol Group, 1995. The World Health Organization quality of life assessment (WHOQOL): position paper from the World Health Organization. Social science & medicine, 41(10), pp.1403-1409.

3. Eapen, V., 2016. Parental quality of life in autism spectrum disorder: Current status and future directions. *Acta Psychopathologica*, 2(1).

4. Kheir, N., Ghoneim, O., Sandridge, A.L., Al-Ismail, M., Hayder, S. and Al-Rawi, F., 2012. Quality of life of caregivers of children with autism in Qatar. *Autism*, 16(3), pp.293-298.

5. Yamada, A., Kato, M., Suzuki, M., Suzuki, M., Watanabe, N., Akechi, T. and Furukawa, T.A., 2012. Quality of life of parents raising children with pervasive developmental disorders. BMC *psychiatry*, 12(1), pp.119.

6. Charatcharungkiat, N. and Wacharasindhu, A., 2013. Quality of Life among Caregivers of Children with Autistic Spectrum Disorders and Associated Factors. *Journal of the Psychiatric Association of Thailand*, 58(3), pp.233-244.

7. Hoefman, R., Payakachat, N., van Exel, J., Kuhlthau, K., Kovacs, E., Pyne, J. and Tilford, J.M., 2014. Caring for a child with autism spectrum disorder and parents' quality of life: application of the CarerQol. *Journal of autism and developmental disorders*, 44(8), pp.1933-1945.

8. Baghdadli, A., Pry, R., Michelon, C. and Rattaz, C., 2014. Impact of autism in adolescents on parental quality of life. *Quality of life research*, 23(6), pp.1859-1868.

9. Dardas, L.A. and Ahmad, M.M., 2014. Quality of life among parents of children with autistic disorder: A sample from the Arab world. *Research in Developmental Disabilities*, 35(2), pp.278-287.

10. Ji, B., Zhao, I., Turner, C., Sun, M., Yi, R. and Tang, S., 2014. Predictors of health-related quality of life in Chinese caregivers of children with autism spectrum disorders: a cross-sectional study. *Archives of psychiatric nursing*, 28(5), pp.327-332.

11. Kuhlthau, K., Payakachat, N., Delahaye, J., Hurson, J., Pyne, J.M., Kovacs, E. and Tilford, J.M., 2014. Quality of life for parents of children with autism spectrum disorders. *Research in Autism Spectrum Disorders*, 8(10), pp.1339-1350.

12. Tung, L.C., Huang, C.Y., Tseng, M.H., Yen, H.C., Tsai, Y.P., Lin, Y.C. and Chen, K.L., 2014. Correlates of health-related quality of life and the perception of its importance in caregivers of children with autism. *Research in Autism Spectrum Disorders*, 8(9), pp.1235-1242.

13. Perumal, V., Veeraraghavan, V. and Lekhra, O.P., 2014. Quality of life in families of children with autism spectrum disorder in India. *Journal of Pharmacy Research*, 8(6), pp.791-797.

14. Suzumura, S., 2015. Quality of life in mothers of preschoolers with high-functioning pervasive developmental disorders. *Pediatrics International*, 57(1), pp.149-154.

15. Asi, K.Y., 2016. Quality of Life among Parents of Children with Autism Spectrum Disorder in Riyadh. *International Research in Education*, 4(2), pp.76-93.

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A Study to Assess The Effectiveness of Information Booklet on Knowledge and Attitude of People Regarding Organ Donation in Rural Area of Haryana

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ABSTRACT

Title: A study to assess the effectiveness of information booklet on knowledge and attitude of people regarding organ donation in rural area of Haryana.

Background: - Numerous studies have shown result that general population lacks knowledge and awareness regarding organ donation. Hence, researchers planned to undertake this study.

Material and methods: This was a quantitative, pre-experimental study. Self-developed, pre-tested, validated questionnaires and information booklet was used among conveniently sampled 40 subjects residing in Kabri village in Panipat district of Haryana.

Results: There was significant increase in knowledge (p=0.001), modification of attitude in a positive manner (p=0.001) after giving information booklet. There was significant correlation of age with pre-test knowledge (p=0.028).

Conclusion: Information booklet proved to be effective in improving knowledge and modifying attitude positively. Thus, it can be used as a tool to create awareness among mass in community and hospital settings.

Keywords: *Information Booklet, Knowledge, Attitude, Organ donation*

INTRODUCTION

It is clear that organ donation is a topic which may have been exposed to in any way, whether that is on discussion with family or friends or from external communications and campaigns; people tend to feel uncomfortable talking about death and associated topics. Organ donation is a process of removing organ or tissue from a live, dead or recently dead person to be used for another person.[1] To increase awareness about organ donation among people WHO decided to celebrate world organ donation day on 6th August.[2]

On an average, 68 people receive transplant every day from either a living or deceased donor and 17 patients die every day while awaiting an organ. In India, the Transplantation of Human organs act (THOA) was enacted in 1995.[3]

The number of donated organs has stayed fairly constant over the last few years while the number of people needing organ continues to increase. Attitude of donating an organ is generally influenced by social and cultural factors.[4] Knowledge, attitude and behavior are the key factors that influence rates of organ donation.[5] In the past, a large source of healthy cadaveric organs came from victim of car crashes.

Statistics in India: In India around 22 people die every day waiting for organ transplant and every ten minutes other person is added to the waiting list. Currently 1,19000 people are on national waiting list.[6] Annually five lakh people die due to road accidents. Sixty seven percentage deaths occur usually due to brain stem death. Nationally, with a population of 1.2 billion people, the statistic stands at 0.08 persons as organ donors per million population.[7] The rate of organ donation is highest in Spain (39 per 1 lakh population).[8]

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A huge gap exists between patients who need organ transplant and potential donors. It is not that there are not enough organs to transplant, nearly every person who dies naturally or in an accident is a potential donor. Even so innumerate patients cannot find a donor. Religious reasons and lack of information are major causes of opposing organ donation.[9, 10] Numerous studies have shown results that general population lack knowledge and awareness regarding organ donation. Hence researchers planned to undertake this study to assess existing knowledge among people living in rural community and imparting them knowledge by means of information booklet so that maximum people can come forward for organ donation by modifying their attitude and enhancing their knowledge.

This study was conducted with the following objectives:

1. To assess the pre-test and post-test knowledge and attitude regarding organ donation among people in rural area of Haryana
2. To compare pre-test and post-test knowledge and attitude regarding organ donation among people in rural area of Haryana
3. To seek association of pre-test knowledge and attitude with selected demographic variables

MATERIALS AND METHODS

This was pre-experimental (one group pre-test post-test design) study conducted among forty residents of Kabri village in Panipat district of Haryana. Age of subjects ranged from 18-60 years and were conveniently sampled. Tools and techniques comprised of: **Socio-demographic profile,** consisted of 7 items used to collect information about age, education, religion, monthly family income, employment status, socio-economic status (as per Kuppuswamy's socio-economic status scale) and locality. **Self-structured knowledge questionnaire,** used for assessing the knowledge. It consisted of 20 questions and covered the information related to organs to be donated, advantages, barriers, organisations involved. Items included multiple choice questions and true/false/don't know response type. The maximum possible score was 20 and the minimum possible score was 0. Each right answer carried 1 mark and wrong answer carried 0 mark. **Self-structured attitude rating scale,** was 5 point rating scale consisted of 17 items. Total no. of positive items were 8 and negative items were 9. Scoring ranged from '1' for strongly disagree to '5' for strongly agree. The maximum possible score was 85 and minimum possible score was 17. Reverse scoring was done for negatively worded items. **Information booklet on organ donation,** was a comprehensive booklet covering definition, need of organ donation, organs to be donated, advantages and organizations involved. In order to measure the validity of tools, they were given to nine experts from the field of nursing as well as medical. Permission letter was obtained from the ethical committee of the institute. Data was collected from February to June 2016. Written permission was obtained from the Head (sarpanch) of Kabri village. Informed consent was obtained from subjects. Good rapport was maintained with Kabri people after self-introduction, nature and objectives of study were explained to obtain maximum cooperation. For taking pre-test subjects were interviewed using subject data sheet, self-structured knowledge questionnaire and self-structured attitude rating scale. It took 20-30 minutes to collect data from one subject. After taking pre-test, information booklet was given to the subjects. Post-test was taken after 7 days of administration of information booklet.

RESULTS

Mean age of subjects was 34.03 years. Majority of the subjects belonged to Hindu religion (85%) and rest belonged to Sikh religion (15%). Most of subjects belonged to upper middle class (42.5%) of Kuppuswamy's socio-economic status scale (Table 1).

Table 1: Distribution of socio-demographic profile of subjects
n = 40

S. No.	Socio Demographic Variables	Frequency (f)	Percentage (%)
1.	Religion		
	(a) Hindu	34	85
	(b) Sikh	6	15
2.	Socio-economic Scale		
	(a) Upper (1)	2	5
	(b) Upper middle (2)	17	42.5
	(c) Middle/Lower middle (3)	12	30
	(d) Lower/Upper lower (4)	9	22.5
3.	Age (years)	Mean± Standard Deviation	
		34.03±6.919	

Mean pre-test knowledge score was 3.63 but in post-test mean knowledge score increased to 16.30. Hence the post-test knowledge regarding organ donation among subjects in rural areas after giving information booklet was considerably high (Table 2).

Table 2: Comparison of mean pre-test and mean post-test knowledge score regarding organ donation.
n = 40

Knowledge score	Mean	Standard Deviation	't' Value	'p' Value
Pre-test	3.63	1.531	39.000	0.001
Post-test	16.30	1.454		

Paired t test, significant at $p \leq 0.05$

Mean pre-test attitude score was 43.03, but there was significant increase in mean post-test attitude score (48.50). Hence the information booklet was effective in modifying attitude of people in a positive manner (Table 3).

Table 3: Comparison of mean pre-test and mean post-test attitude score regarding organ donation
n = 40

Attitude score	Mean	Standard Deviation	't' Value	'p' Value
Pre-test	43.03	5.031	3.572	0.001
Post-test	48.50	8.057		

Paired t test, significant at $p \leq 0.05$

Regarding attitude, all the subjects agreed that if they would donate organ at the time of death, they would be doing good for someone. Majority (87.5%) agreed that their family's grief would be lessened if their organs are donated after death. Majority (70%) believed that health care costs associated with organ transplantation are worth it to save another's life. Regarding acceptance of organs if needed, 75% agreed to it. None of the subjects responded positively about requesting an organ donation from a family. Few subjects (30%) agreed that organ transplants is successful in prolonging and improving the quality of a recipient's life and 30% considered organ donation as consistent with their moral beliefs. Only 9% respondents trusted doctors and hospitals to use donated organs the same way as promised (Table 4).

Table 4: Percentage of agreement with positive attitude statements in pre-test

	STATEMENT	f (%)
1	If I donate my organ/ tissue at the time of death, I could be doing something good for someone else.	40 (100)
2	My family's grief will somehow be lessened if my organ / tissue are donated after I die.	35 (87.5)
3	The health care costs associated with organ transplantation are worth it to save another's life.	28 (70)
4	If necessary, I would accept an organ transplant in order to perceive my life.	30 (75)
5	I would feel comfortable about requesting an organ (kidney, heart, lung, liver or pancreas) donation from a family.	0
6	Organ transplants are successful in prolonging and improving the quality of a recipient's life.	12 (30)
7	I think organ donation is consistent with my moral beliefs.	12 (30)
8	I trust doctors and hospitals to use donated organs the way they promised to.	9 (22.5)

Age had a significant positive correlation with knowledge but regarding attitude correlation was non-significant. The subjects who had higher age had better pretest knowledge (Table 5). No significant association of religion and socio economic status was found with knowledge and attitude (Table 6).

Table 5: Correlation of age with pre-test knowledge and attitude score.
n = 40

Variable	Knowledge Score Mean ± SD 3.63±1.531	Attitude Score Mean ± SD 43.03 ±5.031
Age Mean± SD 34.03±6.919	r= 0.347 p= 0.028*	r=0.128 p=0.431

Pearson correlation, significant at $p \leq 0.05$

Table 6: Correlation of religion and socio economic status with knowledge and attitude score
n = 40

Variable	Knowledge	Attitude
Religion	r =10.2 p =0.117	r =12.54 p =0.502
Socio Economic Status	r =23.42 p =0.175	r =31.541 p =0.881

Pearson chi square, significant at $p \leq 0.05$

DISCUSSION

In present study subjects had poor pre-test knowledge (mean= 3.63), findings were contrary to the study by K. K Manojan et al[11] on knowledge and attitude towards organ donation in rural area of Kerala, India where 97% participants had heard about organ donation, 53% had a good knowledge, regarding organ donation. Findings are also contrary to the study by Taimur Saleem et al [12] in which 60% subjects had adequate knowledge regarding organ donation. Subjects with older age were having more knowledge in present study. Findings are contrary to the study by Olumuyiwa O. Odusanya et al[13] where subjects with younger age had better knowledge. This study can be used as baseline for future studies to built upon. Public Health Nurses, ANMs should use Information booklet to aware people regarding organ donation. Similar study can be conducted for school and college students, health care professionals on large sample size in Haryana. There were some limitations of the study i.e sample size was small and randomization was not done , so there can be effect of extraneous variables as people were residing in same community.

CONCLUSION

Information booklet was effective in enhancing the knowledge regarding organ donation and modifying the attitude of people in a positive way. So, it can be used as a tool to create awareness among people regarding organ donation, thereby adding to the pool of donors in India.

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REFERENCES

1. Organ Donation Facts & Info | Organ Transplants | Cleveland Clinic [Internet]. [cited 2017 Jan 31]. Available from: http://my.clevelandclinic.org/health/articles/organ-donation-and-transplantation
2. Organ Donation Day | National Health Portal Of India [Internet]. [cited 2017 Jan 31]. Available from: https://www.nhp.gov.in/Organ-Donation-Day_pg
3. Vijayalakshmi P, Sunitha TS, Gandhi S, Thimmaiah R, Math SB. Knowledge, attitude and behaviour of the general population towards organ donation: An Indian perspective. Natl Med J India. 2016 Oct;29(5):257–61.
4. Chung CK, Ng CW, Li JY, Sum KC, Man AH, Chan SP, et al. Attitudes, knowledge, and actions with regard to organ donation among Hong Kong medical students. Hong Kong Med J 2008;**14:**278–85.
5. Rithalia A, McDaid C, Suekarran S, Norman G, Myers L, Sowden A. A systematic review of presumed consent systems for deceased organ donation. Health Technol Assess 2009;**13:**iii, ix-xi, 1–95.
6. Organ Donation Statistics: Why be an Organ Donor? | organdonor.gov [Internet]. [cited 2017 Jan 31]. Available from: https://www.organdonor.gov/statistics-stories/statistics.html
7. About Organ Donation | I Lead India Youth Brigade - An initiative by The Times of India [Internet]. [cited 2017 Jan 31]. Available from: http://timesofindia.indiatimes.com/aboutorgandonation.cms
8. IRODaT - International Registry on Organ Donation and Transplantation [Internet]. [cited 2017 Jan 31]. Available from: http://www.irodat.org/?p=database&c=ES#data
9. Alam AA. Public opinion on organ donation in Saudi Arabia. Saudi J Kidney Dis Transpl 2007;18:54-9.
10. Al-Ghanim SA. The willingness toward deceased organ donation among university students. Implications for health education in Saudi Arabia. Saudi Med J 2009;30:1340-5.
11. Manojan KK, Raja RA, Nelson V, Beevi N, Jose R. Knowledge and Attitude towards Organ Donation in Rural Kerala. Academic Medical Journal of India. 2014 Feb 5;2(1):25–7.
12. Saleem T, Ishaque S, Habib N, Hussain SS, Jawed A, Khan AA, et al. Knowledge, attitudes and practices survey on organ donation among a selected adult population of Pakistan. BMC Medical Ethics. 2009;10:5.
13. Odusanya, O. O. and Ladipo, C. O. (2006), Organ Donation: Knowledge, Attitudes, and Practice in Lagos, Nigeria. Artificial Organs, 30: 626–629. doi: 10.1111/j.1525-1594.2006.00272.x

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Syrian Refugee Women's Reasons for Not Reporting Violence: An Exploratory Study

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ABSTRACT

Objective: To explore Syrian refugee women's reasons for not reporting violence.

Methods: This qualitative study is part of a larger study, in which Syrian refugee women aged 18 or older who attended five Maternal and Child Health Care Centres in Mafraq district in Jordan were invited to participate. Arabic version of the NORAQ questionnaire which includes data on emotional, physical and sexual abuse was used. In addition, participants who suffered from any type of domestic violence were asked to describe their experiences including their reasons for not reporting them. The responses of 44 married or divorced women were used in the current qualitative study.

Results: Five major themes were emerged: acceptance, fear of consequences, absence of social support, unsupportive healthcare providers**,** and being powerless**.**

Conclusions: The findings indicated that abused Syrian refugee women who prefer to keep silent about domestic violence were overwhelmed by cultural constraints and disadvantaged living circumstances.

Keywords: *Reasons, Domestic Violence, Reporting, Syrian Refugee, Women.*

BACKGROUND

Domestic violence is considered a major international public health and human rights problem[1], and violence against women is a challenging issue for their health and wellbeing[2]. There are four forms of domestic violence: physical, emotional, sexual and economic[3,4]. WHO reported that one in three women (35%) worldwide is vulnerable to intimate-partner or non-partner violence[5]. According to a multi-country study on domestic violence against women, concentrating on physical and/or sexual abuse, the prevalence varied from 15% of partnered women in Japan to 71% in Ethiopia[5]. The findings of a recent study on the prevalence of emotional abuse among Syrian refugee women in Jordan revealed that more than half (51.6%, 94 participants,) had experienced lifetime emotional abuse[6].

To date, no study has explored the reasons for not reporting domestic violence among these women, so this study will pave the way for further work in this neglected research area.

Some 646,700 Syrian refugees live in Jordan, about 85% of them in non-camp settings. Women and children constitute the majority of the refugees (23.5% and 53% respectively)[7,8,9].

The implications of the findings of this study will be beneficial to the health sector authorities and other stakeholders, in planning programmes and training for healthcare providers to improve their competencies and skills in dealing appropriately with the Syrian refugee women susceptible domestic violence. In addition, our findings might be applicable to abused Syrian and Arab refugee women in Europe, the USA and Canada, who might not report their abuse for different reasons from those of refugees from other cultural backgrounds.

LITERATURE REVIEW

The literature regarding reasons for not reporting domestic violence showed that going to the police or justice authorities is neither accepted nor allowed for women who live in patriarchal societies in developing

countries 10. Arab women in North Africa and the Middle East have lower social status and are less empowered than men, with limited access to resources such as jobs, healthcare, knowledge and reproductive control[11]. Haghighat (2013) argued that Islam is not to blame for the limited access of women to social services, employment and health resources, although it is often used to justify restricting women's empowerment and development. Thus, cultural and social norms, rather than religion, have a great impact on the powerless status of Arab Muslim women.

Nonetheless, previous studies of abused refugee women reporting to healthcare providers have various results. About half of the physically abused Syrian refugee women reported that they had talked to friends and relatives, but only three had discussed the problem with their physician [12]. In contrast, the findings of a study carried out in the United States revealed that one half of the women who experienced domestic violence reported that they had discussed their problem with a healthcare provider[13]. However, comparison between the studies might be limited due to methodological and cultural variations.

However, the likelihood of abused women discussing their suffering with healthcare providers would be greater than reporting to the police, as they can talk openly during their visits to clinics. The literature has identified various reasons for not reporting domestic violence; for example, the lack of interest of some healthcare providers was reported by abused Arab immigrant women in the USA [14], Other reasons are related to healthcare facilities themselves, such as the lack of privacy in which to discuss their abuse [4] and to socio-cultural factors[15,16]. In Jordan, the reasons for withholding information include the victims' economic dependence of on their perpetrators, the lack of alternatives to living with them 26 and the fear of losing their children[4].

Exploring the reasons for victims' failure to report their problems to healthcare providers is crucial to understanding the extent of the problem in order to enable government authorities and NGOs to deal with it. Thus, the aim of the current study is to explore the reasons preventing female Syrian refugees in Jordan from reporting domestic violence.

METHODS

This study presents the results of qualitative data analysis that was collected as a part of a larger project about domestic violence among Syrian refugee women in Jordan[6].

Design, Setting and Sample

In the original project, a cross-sectional design was employed to collect the data. Of the 280 women invited to participate, 182 women completed a self-administered questionnaire. The validated Arabic version of the NORAQ questionnaire was used with the author's permission. The questionnaire included questions on emotional, physical and sexual abuse, with an open-ended question at the end of the questionnaire.

The data and quotations for the current qualitative study have been extracted from the responses of 44 currently married or divorced women who responded to the open-ended question: "Describe your domestic violence experiences which you could not explain in the previous questions" Although only 37% of the abused women reported the reasons for not reporting their suffering to others, such as healthcare providers, we believe that exploring their experiences would pave the way to understanding the patterns of domestic violence reported among this disadvantaged population.

Data Analysis

The thematic analysis approach was used to analyse the data, which was reviewed, classified and tabulated, and then analysed with the Thematic Content Analysis Tool (TCAT) [17]. Common themes were identified manually by the study authors. The participants' written responses were translated into English by the first author and back translated into Arabic by a bilingual specialist, to ensure accuracy.

Ethical approval

Ethical approval for the current study was obtained from the Al al-Bayt Ethics Committee and the Ministry of Health. After explaining the purpose of the study and assuring confidentiality, participants were asked to sign a consent form.

RESULTS

Demographic characteristics

The majority of the respondents were married (143, 78.6%). There were 122 married women reported one or more types of domestic violence (82 emotionally abused, 22 physically abused, and 18 sexually abused).

The results of the current qualitative study have been derived from the written responses of 44 married or divorced women who answered the open-ended question (see Methods). All of the respondents were able to read and write; about a third of those answering the open-ended question had completed their secondary education (15 out of 44). Their household income ranged from 100 to 350 JD and their ages from 19 to 42. None of participants were working, and only 16 (36%) reported that their husbands were working.

The content analysis revealed five key themes of reasons for not reporting their domestic violence: acceptance, fear of consequences (divorce, police, losing their children), absence of social support, unsupportive or un-trusted healthcare providers**,** and being powerless.

Acceptance

According to a 34-year old married participant who had been physically abused by her husband:

> [I have no warranty that my husband will not batter me again if I complain to police or a doctor. I hope that his bad behaviour will change in the future when the children get older.]

Fear of consequences (divorce, police, losing kids)

Some women were facing the dual pressure of economic responsibility for living expenses, and the domestic violence. One example is a 45-year old married woman who reported:

> [My husband is afraid that the police will return us to the camp if he gets a job. That's why I am working in cleaning homes and at the same time I tolerate his continuous anger and hitting me and the children …. I have to be patient until we can go back to Syria. I won't tell the people in the clinic because they may tell the police, and the police in turn may send us back to the refugee camp.]

Some abused women expressed their inability to talk to their own families about their suffering from the perpetrators. One such woman is 23 years old:

> [I got married when I was 13 years old, my husband used to beat me and smash me on face, I am afraid of him, but I do not have the choice to complain to my brothers because they may beat him and I may be divorced, and my children will be lost.]

Hiding the violence and keeping silent is the only response for many abused women, because they are not confident that expressing their feelings to others would help to overcome their problems. One of those women reported:

> [I will never tell my family or the nurse in the clinic about my husband's bad behaviour with me and my children … they have nothing to do to help us … I do not want to lose my children. Although he is so mean with us and he spends his money on his girlfriends, I will not leave him for the sake of the children.]

Absence of social support

Social isolation and lack of family and/or friends' support hinders many abused refugee women from telling a healthcare provider about their abusive husbands, because if they were divorced they might end up without shelter. Talking about domestic abuse to a friend or a neighbour was described by some abused women. One example is a 27-year old who reported:

> [I am the second wife and my husband is always accusing me of not taking care of him and my children and he calls me names in front of the children. Once, I talked to my neighbour about how my husband is treating me, but she spolit my reputation by telling my story to her husband and the other neighbours. I do not dare to tell the nurse in the clinic or the police, I do not have family or a place to go to if he divorces me.]

Unsupportive or distrust of healthcare providers

According to some abused women, lack of trust in the healthcare providers and the unfriendly behaviour of some of them play an important role in hindering these women from informing them about their suffering. One 27-year old divorced participant reported:

> [I've been beaten by my ex-husband for many years; the last time he beat me and forced me to sleep with him was several months ago - before he divorced me - because I told him that we should not have sex as I had maternal infections and the physician told me to stop sexual intercourse until it cures. I suffered for many years but I never talk about it with a nurse or a doctor in the clinic because they are not friendly and they see many patients and they have not enough time to listen to my marital problems

and even if they know about it what can they do? They never asked about these matters … nurses and doctors are only concerned about physical problems.]

Powerless women

A 31-year old married participant reported that she had been married for twelve years with no children because her husband has a fertility problem; although he realizes this, he always blames her for not getting pregnant and he refuses to pay for treatment and IVF. Also, she reported that she did not discuss this with a healthcare provider or a family member;

[I did not talk about it with my mother; I do not have to embarrass myself, and did not tell a nurse or doctor either; what could they do? They are unable to help me … at the end of the day I would go back to my husband.]

DISCUSSION

The major finding highlighted in this study is that the vulnerable status of the Syrian refugee women is the key contributor to under-reporting domestic violence to healthcare providers, police and families. In addition, abused women's acceptance of violence as a social norm, and considering domestic violence as a family matter, contributed to the low rates of reporting violence to healthcare providers. It is worth noting that the cultural background that supports men's domination over women through violence plays a negative role in empowering women to make decisions to defend themselves. Thus, the extent of the problem is still unknown. Many women who experienced domestic violence would rather keep silent and others would discuss it with their sisters, mothers and female friends.

In agreement with the literature, one of the interesting findings of our study was that some abused women were not comfortable in disclosing their problems in a crowded place which lacked the privacy needed to discuss sensitive issues such as domestic violence. Providing a comfortable and confidential environment would improve the reporting rates of domestic violence [4,18].

Given the fact that none of the participants was working, their powerless situation and the fear of getting divorced with no source of income is one of the most important factors contributing to their decision to remain silent in the face of their abuse. These findings were consistent with the work done by Damra et al (2015).

Our findings agreed with the literature in regard to the women's belief that the healthcare providers would fail to deal with their problem appropriately [4]. Healthcare providers should offer the ideal opportunity to provide counselling, intervention and referral for the victims of domestic violence[19].

Sexual abuse is one of the most underreported types of domestic violence. One of the participants who were sexually abused reported that she was seen as a "dirty woman" and she did not dare to discuss her suffering with a healthcare provider because she did not want to be stigmatized and being blamed[4]

RECOMMENDATIONS

There are three major areas where healthcare providers are in crucial need of support: building trusting relationships with their clients, providing privacy, and being friendly when dealing with their clients. In addition, empowering abused women is strongly recommended. These women are in critical need of help from healthcare providers who are well-equipped and skilful in screening for domestic violence in a culturally sensitive manner.

CONCLUSIONS

Syrian refugee women are apparently marginalised group because of their poor living circumstances. Culture is the main reason behind not disclosing their experiences with domestic violence.

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REFERENCES

1. WHO. Violence against women: Intimate partner and sexual violence against women: Fact sheet. Geneva, World Health Organization. 2016
2. Ellsberg M, Jansen HA, Heise L, Watts CH, Garcia-Moreno C. Intimate partner violence and women's physical and mental health in the WHO multi-country study on women's health and domestic violence: an observational study. Lancet. 2008;371 (9619): 1165-1172. 10.1016/S0140-6736(08)60522-X

3. Ricci, SS. Essentials of maternity, newborn, & women's health nursing, Wolters Kluwer Health| Lippincott Williams & Wilkins. 2013

4. Damra JK, Abujilban SK, Rock MP, Tawalbeh IA., Ghbari TA. & Ghaith SM. Pregnant Women's Experiences of Intimate Partner Violence and Seeking Help from Health Care Professionals: A Jordanian Qualitative Study. J Fam Viol. 2015;30(6): 807-816. DOI 10.1007/s10896-015-9720-z

5. WHO. Multi-country study on women's health and domestic violence against women: summary report of initial results on prevalence, health outcomes and women's responses. Geneva. World Health Organization .2005 (Avilable at http://apps.who.int/iris/bitstream/10665/43310/1/9241593512_eng.pdf)

6. Al-Shdayfat Na. Emotional Abuse among Syrian Refugee Women in Jordan. Global Journal of Health Science.2017;9(3): 237-246.

7. UNHCR (United Nations High Commissioner for Refugees). Health access and utilization survey among non-camp refugees in Jordan.2015

8. Shteiwi, M, Walsh, J, Klassen, C. Coping With The Crisis; A Review of the Response to Syrian Refugees in Jordan. Center for Strategic Studies, Amman, Jordan. 2014 (Available at http://www.jcss.org/Photos/635520970736179906.pdf)

9. Buenda J. Syrian Refugee Women: A review to the International Relations practices and discourses about Syrian Refugee Women in Middle East. 2015;Master thesis

10. Chireshe, E. Barriers to the Utilisation of Provisions of the Zimbabwean Domestic Violence Act among Abused Christian Women in Zimbabwe, Journal of International Women's Studies; Bridgewater.2015;16(2): 259-273.

11. Haghighat E. Social Status and Change: The Question of Access to Resources and Women's Empowerment in the Middle East and North Africa, Journal of International Women's Studies; Bridgewater.2013;14(1) :273-299.

12. Al-Shdayfat N, Physical Abuse among Syrian Refugee Women in Jordan. World Journal of Medical Sciences. 2017;11(1)

13. Morse DS, Lafleur R, Fogarty CT, Mittal M, and Cerulli C. They told me to leave": How health care providers address intimate partner violence. J Am Board Fam Med.2012;25(3): 333–342. doi: 10.3122/jabfm.2012.03.110193

14. Abu-Ras WM. Barriers to Services for Arab Immigrant Battered Women in a Detroit Suburb. *Journal of Social Work Research and Evaluation*. Springer Publishing Company. 2003;4(l).

15. Raj A, Silverman JG, McCleary-Sills J, Liu R. Immigration policies increase South Asian women's vulnerability to intimate partner violence. J Am Med Wom Assoc .2005;60:26–32

16. Hass, GA, Dutton, MA, & Orloff, LE. Lifetime prevalence of violence against Latina immigrants: Legal and policy implications. International Review of Victimology.2000;7(1-3):93-113.

17. Berg, LB. (2004). Qualitative research methods for the social sciences. Bearso, Boston, the 5th edition. (Available at http://www.msu.ac.zw/elearning/material/1344156815Reading%204%20qualitative%20research%20methods%20for%20social%20sciences.pdf.)

18. Gerbert B, Moe J, Caspers N, Salber P, Feldman M, Herzig K, and Bronstone A. Simplifying physicians' response to domestic violence, West J Med. 2000; 172(5): 329–331.

19. Sullivan CM and Hagen LA. Survivors' Opinions About Mandatory Reporting of Domestic Violence and Sexual Assault by Medical Professionals AFFILIA. 2005;20(3) DOI: 10.1177/0886109905277611

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Comparative Assessment of Problem-Based Learning and Traditional Teaching to Acquire Knowledge on Ventilator Associated Pneumonia

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ABSTRACT

This research was conducted to find out the effect of problem-based learning (PBL) versus traditional teaching (TT) on knowledge regarding ventilator-associated pneumonia (VAP) among nursing students in selected Colleges of Nursing, West Bengal, India. Non-equivalent pre-test post-test design was adopted, and 83 students were selected by total enumeration technique from two colleges. After taking a pre-test, the lecture was conducted to TT group (42), and PBL was introduced to PBL group (41). Post –test was taken on the 8th day. The result of the study revealed that PBL was more effective to enhance knowledge rather than TT whereas TT was also effective. PBL was effective to enhance post-test knowledge score (μ=24.10) than TT group (μ=16.33). There is a significant association between pre-test knowledge score and exposure to learning resources in case of both PBL and TT group.

Keywords: *Problem based learning, Traditional teaching, Ventilator associated pneumonia, Nursing education*

INTRODUCTION

Education is as old as mankind. It is the concern of all human beings and composed of two interrelated processes which are teaching and learning. Teaching and learning are twin activities which include active participation and co-operation between the teacher and the student[5,9]. There is a various method of teaching – learning activities which range from complete teacher-centered to student centred. Meanwhile, the educative process has four dimensions as described by Heidgerken[2] and the procedural dimension is one of them which includes the methods which may be used by the teacher and the learner to achieve the desired educational objectives. Kumar states that there are four groups of methods, i.e., monologue or one-way teaching, dialogue or two-way teaching, action, and self- study[7]. However, Ruhela denounces the traditional method and suggested that a constructive learning environment and context of learning are essential for teaching[8]. It is especially of foremost importance in teaching nursing, because nurses are supposed to face unexpected problems and solve them by making suitable and prompt decisions with other health team members. Therefore, nursing teachers should teach in a such way that they can use problem-solving skills. These skills lead the learner to develop autonomy, and solving the problems based on active information gained by problem analysis and making an attempt to locate those[4, 5].

Kolb believes learning to be a form of problem-solving[6]. Problem–solving is one such method; it is assumed that learners develop the ability to transfer the problem-solving skill to the practical situation. PBL is one of the most commonly used educational methods in medical education. It was initially developed at McMaster University as a way to solve the problems[3]. In general, PBL is a student centred teaching method which encourages student comprehending of underlying issues and principles while solving specific problems'[3]. 'PBL requires students to integrate critical thinking skills into all areas of learning'[3]. The starting point of PBL is presentation of clinical problems. By undergoing through these problems, students try to find out the

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characteristics of the problem, make ideas, and obtain the knowledge and skills required to solve the problem. It appears that students will have a better knowledge retention with this method, and PBL increases in-depth learning and helps students to perform better in examinations. In lecture method, students receive information from the teacher and attempt to recall the content instead of comprehending the issues. Therefore, at the patient's bedside, they unconsciously and merely perform the routine work, passively handle the new situations, and make no contribution and innovation to identify and fulfill the existing requirements[5, 3].

NEED FOR THE STUDY

With the knowledge explosion and the changing scenario in the health care settings, there is a need to develop competent nurses to face the challenges in their practice. In this context, one question always triggers me that is there any teaching method which creates interest among the learner? As a teacher, the investigator also felt the need to identify the better teaching strategy for nursing students that can make them self- directed learners and effective problem solver. The investigators' own experiences and interest and experts suggestions helped her to undertake the study.

OBJECTIVES

1. To assess the knowledge score of the nursing students regarding VAP before and after PBL.
2. To evaluate the knowledge score of a nursing student regarding VAP before and after TT.
3. To determine the effect of problem-based learning versus TT regarding a significant change in knowledge regarding VAP.
4. To find out the association between the pre-test knowledge score and selected demographic variables of nursing students regarding VAP.

MATERIALS AND METHODS

A quasi-experimental research approach and non-equivalent pre-test post-test design were adopted for the study. The target population consisted of 3rd year B.Sc. Nursing students. The multistage sampling technique was adopted to select the present study settings (College of Nursing, Medical College & Hospital and College of Nursing, R.G.Kar Medical College & Hospital) and total enumeration technique was used to select a sample of 83 nursing students from two nursing colleges of West Bengal.

Teaching session was conducted on TT group regarding VAP. PBL was introduced to the groups with a set of problems. To solve the problems embers of the each group discussed with each other along with experts. Brainstorming session was conducted by the investigator with each group. Structured knowledge questionnaire was administered and self reporting was used to collect the data. The expert opinion confirmed the content validity of tool regarding the relevance of the items. Reliability of the tool was computed by applying the Split-Half method and calculated by Spearman Brown prophecy formula. The result showed tool was reliable. Finally, collected data were analysed using simple descriptive and inferential statistics.

DESCRIPTION OF TOOL

The data collection tool is structured knowledge questionnaire. It consists of

Section A: Demographic Profile

It contains two items such as age and exposure to the sources of information regarding VAP.

Section-B: Structured Knowledge Questionnaire

A structured knowledge questionnaire contained 30 questions regarding VAP-definition, causes, pathophysiology, sign & symptoms, diagnostic studies, prevention, and nursing management of VAP.

RESULT

Data presented in Figure 1 depicted that in the area of definition, pre-test knowledge score was 69.51% whereas in post-test score became 89.02%. Pre-test knowledge score in both causes and pathophysiology were 43.90% whereas in post-test 87.80% and 73.17% respectively. In sign and symptoms, students scored 42.68% in pre-test whereas in post-test it became 82.92%. In diagnosis, pre-test knowledge score was 40.24% which in post-test raised to 81.70%. In prevention and nursing management, pre-test knowledge scores were 47.89% and 40% which became 77.82% and 78.53% respectively in post –test. Nursing students of PBL group acquired adequate knowledge (> 75%) in all areas except pathophysiology.

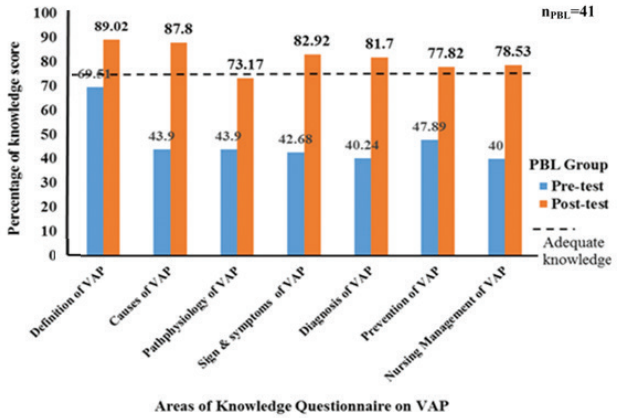

Figure 1: Mean pre-test and post-test knowledge scores of PBL group of nursing students regarding VAP.

H_1: There is a significant difference between mean pre-test knowledge score of nursing students regarding VAP of PBL group and TT group at 0.05 level of significance.

H_{01}: There is no significant difference between mean pre-test knowledge score of nursing students regarding VAP of PBL group and TT group at 0.05 level of significance.

Table 1: Mean, mean difference, standard deviation and 't' value of pre-test knowledge score of nursing students of TT group and PBL group regarding VAP.

n= 83 (n TT = 42, n PBL = 41)				
Group	**Mean pre-test knowledge Score**	**Mean differences**	**SD**	**Unpaired 't' value**
PBL	13.56		2.42	
		1.04		1.78
TT	12.52		2.86	
't' df (81)= 1.98 ; *p*< 0.05				

Table 1 shows that the mean pre-test knowledge score (13.56) regarding VAP of the students of PBL group is higher than the mean pre-test knowledge score of TT group (12.52) with a mean difference of 1.04 which is not statistically significant as evident from 't' value of 1.78 which is less than the table value (1.98) for df (81) at 0.05 level of significance.So, the null hypothesis is accepted, and research hypothesis (H_1) is rejected.

H_2: The mean post-test knowledge score after PBL is significantly higher than the mean pre-test knowledge score of the nursing students regarding VAP at 0.05 level of significance.

H_{02}: There is no significant difference between mean pre-test knowledge score and mean post-test knowledge score of the nursing students regarding VAP after PBL at 0.05 level of significance.

Table 2: Mean, mean difference, standard deviation and 't' value of pre-test knowledge score and post-test knowledge score of nursing students of PBL group regarding VAP.

n PBL= 41				
Test of PBL group	**Mean Knowledge Scores**	**Mean difference**	**SD**	**Paired 't' test value**
Pre-test	13.56		2.42	
		10.44		15.64*
Post-test	24.10		3.12	
*'t' df (40)= 2.02; p<0.05; * significant*				

Table 2 shows that the mean post-test knowledge score (24.10) of the students of PBL group is higher than the mean pre-test knowledge score (13.56) with a mean difference of 10.44 which is statistically significant as evident from 't' value of 15.64 which is greater than the table value (2.02) for df (40) at 0.05 level of significance. So, the null hypothesis is rejected, and research hypothesis (H_2) is accepted.

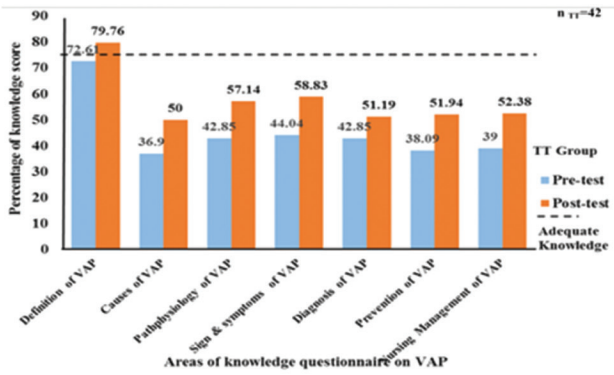

Figure 2: Mean pre-test and post-test knowledge scores of TT group among nursing students regarding VAP.

Data presented in Figure 2 depicted that in the area of definition, pre-test knowledge score was 72.61% whereas in post-test score became 79.76%. Pre-test

knowledge score in causes and pathophysiology were 36.9% and 42.85% whereas in post-test it became 50% and 57.14% respectively. In sign and symptoms, students scored 44.04% in pre-test whereas in post-test it became 82.92%.In diagnosis, pre-test knowledge score was 42.85% which became 51.19 % in post-test. In prevention and nursing management, pre-test knowledge scores were 38.09% and 39% which became 51.94 % and 52.38% respectively in post –test. Nursing students of TT group acquired adequate knowledge (> 75%) only in area of definition after teaching through TT method.

H_3: The mean post-test knowledge score is significantly higher than the mean pre-test knowledge score of the nursing students regarding VAP after TT at 0.05 level of significance.

H_{03}: There is no significant difference between mean pre-test knowledge score and mean post-test knowledge score of the nursing students regarding VAP after TT at 0.05 level of significance.

Table 3 : Mean, mean difference, standard deviation and 't' value of pre-test knowledge score and post-test knowledge score of nursing students of TT group regarding VAP.

n TT= 42				
Test	**Mean Knowledge Scores of TT group**	**Mean difference**	**SD**	**Paired 't' test value**
Pre-test	12.52		2.86	
		3.81		8.72*
Post-test	16.33		2.06	
*'t' df (41)= 2.00; p< 0.05; * significant*				

Table 3 illustrate that the mean post-test knowledge score (16.33) of the nursing students of PBL group is higher than the mean pre-test knowledge score (12.52) with a mean difference of 3.81 which is statistically significant as evident from 't' value of 8.72 which is greater than the table value (2.00) for df (41) at 0.05 level of significance.So, the null hypothesis is rejected and research hypothesis (H_3) is accepted.

H_4: The mean post-test knowledge score is significantly higher among nursing students who undergone PBL than those who undergone TT regarding VAP at 0.05 level of significance.

H_{04}: There is no significant difference between mean post-test knowledge score of nursing students regarding ventilator associated pneumonia of PBL group and TT group at 0.05 level of significance.

Table 4: Mean, mean difference, standard deviation and' value of post-test knowledge score of nursing students of TT and PBL group regarding VAP.

n= 83 (n TT = 42, n PBL = 41)				
Group	**Mean pre-test knowledge Score**	**Mean differences**	**SD**	**Unpaired 't' value**
PBL	24.10	7.77	3.12	13.41*
TT	16.33		2.06	
*'t' df (81)= 1.98; p<0.05 ; * significant*				

Table 4 presented that the mean post-test knowledge score (24.10) of the nursing students of PBL group is higher than the mean pre-test knowledge score (16.33) of TT group with a mean difference of 7.77 which is statistically significant as evident from 't' value of 13.41 which is greater than the table value (1.98) for df (81) at 0.05 level of significance.So, the null hypothesis is rejected and research hypothesis (H_4) is accepted.

H_5: There is a significant association between pre-test knowledge score of nursing students and selected demographic variables of both PBL and TT group at 0.05 level of significance.

H_{05}: There is no significant association between pre-test knowledge score of nursing students and selected demographic variables of both PBL and TT group at 0.05 level of significance.

Table 5: Chi –square value showing association between pre-test knowledge score of nursing students of PBL group and TT group with age and exposure to learning resources.

n=83 (n PBL = 41,n TT = 42)				
		Pre-test Knowledge Score		Chi-square value
Sl. No	Variables	Below median	At or above median	
1.	**PBL Group**			
	(a) Age			
	< 21 years	10	13	0.01
	≥ 21 years	9	9	
	(b) Exposure to learning resources			
	Yes	8	20	9.07*
	No	11	2	
2.	**TT Group**			
	(a) Age			
	<21 years	9	17	0.07
	≥ 21 years	7	9	
	(b) Exposure to learning resources			
	Yes	7	24	9.7*
	No	9	2	
*$\chi^2 df (1) = 3.84, p< 0.05,$ * significant*				

Table 5 revealed the computed value between age and pre-test knowledge score showed that in this study, there no significant association between age & pre-test knowledge score in PBL and TT group as evident from the value of 0.01 and 0.07 respectively which are less than table value (3.84) for df (1) at 0.05 level of significance. Therefore, null hypothesis is accepted, and research hypothesis is rejected.

The computed value considering 'Yates correction' between exposure to learning resources and pre-test knowledge score showed that a significant association between exposure to learning resources and pre-test knowledge score in PBL and TT group i.e., value of 9.07 and 9.7 respectively which is less than table value (3.84) for df (1) at 0.05 level of significance. Therefore, research hypothesis is accepted, and the null hypothesis is rejected.

DISCUSSION

Carreor and others conducted a study on 52 graduated anaesthesiologists, attended in Professional and Continuing Education courses on the topic of air embolism; PBL was compared with lecture based learning[1]. The knowledge of participants was assessed before and after the intervention. After instruction, participants who listened to the lecture improved their scores for knowledge of monitoring (P = .03) and treatment (P = .001). Participants in the PBL group also improved their scores for knowledge of treatment (P = .003). There was no significant differences between the area of immediate knowledge before and after the intervention.

In the present study, PBL is effective (t=15.64, p<0.05 at df 40) for enhancing the knowledge. TT is also effective (t=8.72, p<0.05 at df 41). However, in comparison of two methods, PBL is more effective (t=13.41, p<0.05 at df 81) rather than TT.

Szogedi and others (2010) compared PBL's effectiveness to that of traditional learning when training nurses10. The study involved 1,775 nurses who had received cardiopulmonary resuscitation training (CPR) in Hungary. A retrospective and a comparative analysis were used. The t-tests yielded significant differences (t = 3.569; p < 0.001) between conventionally trained and PBL students. The students who received PBL training had higher final CPR exam grades than their counterparts and appeared to acquire more theoretical knowledge and skills.

In the present study, it shows that there is also a significant mean difference (10.54) between mean post-test knowledge score of PBL (24.10) at 0.05 level of significance. The Independent t-test yielded the result t=

13.41, $p < 0.05$. It shows that PBL is highly effective to enhance knowledge score rather than TT method.

There is a significant association between pre-test knowledge score and exposure to learning resources in case of both PBL (= 9.07 at df 1; $p < 0.05$) and TT group (= 9.7 at df 1; $p < 0.05$).

CONCLUSION

Both teaching method PBL and TT are found effective enough to enhance the knowledge of nursing students. However, it is found that PBL is more effective to improve the knowledge regarding VAP rather than TT. In nursing education, PBL can be adopted along with TT.

ETHICAL CLEARANCE

Ethical permission was taken from institutional ethical committee, Medical College and Hospital, Kolkata-73.

Source of funding: self

Conflict of interest: nil

REFERENCES

1. Carreor E J, Gomar C, Fabrecas N, Penzo W, Castillo J,Vilalonga A. 2008. Problem/casebased learning compared to lectures for acquiring knowledge of air embolism in continuing medical education. Rev Esp Anesthetisol Reanim .55(4).202-209
2. Heidgerken, L.E. 1992. Teaching and learning in schools of nursing: principles and
3. Kaeser M., Kamper J, Hawk C. 2014. Topics in Integrative Health Care Traditional Versus a Modified Problem-based Learning Activity : Is There a Difference in Student Knowledge Retention ? Traditional Versus a Modified Problem-based Learning Activity : Is There ... *Topics in Integrative Health Care*, *5*(2), 1–10.
4. Kang M, Francis P, Indoshi C. 2012. Teaching Styles and Learners' Achievement in Kiswahili Language in Secondary Schools. *International Journal of Academic Research in Progressive Education and Development*, *1*(3), 62–87.
5. Khoshnevisasl P, Sadeghzadeh M., Mazloomzadeh S, Hashemi R. 2014. Comparison of Problem-based Learning With Lecture-based Learning, *16*(5). https://doi.org/10.5812/ircmj.5186
6. Kolb, D.A. 1976.Learning style inventory technical manual Boston: McBer & Co.
7. Kumar, K.L. 1996. Educational Technology. New Delhi: New Age International.p-83-88
8. Ruhela, S.P. 1991. Educational Technology. The Associated Publishers, 205-208
9. Singh, K. 2016. Comparative study of health awareness among secondary school students in relation to their gender and locale. *Internat Ional Journal of Applied Research*, *2*(11), 109–112.
10. Szogedi I, Zrinyi M., Betlhem J, Ujvarine AS, Toth H. 2010. Training nurses for CPR: Support for the problem-based approach. European Journal of Cardiovascular Health, 9, 50–56.

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Comparative Study to Assess the Level of Knowledge among Staff Nurses Working in Critical Care and General Area Regarding Cardio-Pulmonary Resuscitation

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ABSTRACT

With a view to compare the level of knowledge among staff nurses working in critical care and general area regarding Cardio-Pulmonary Resuscitation (CPR), a cross sectional comparative approach was undertaken on 100 staff nurses. Convenience sampling technique was used in selecting 50 critical care and 50 general area staff nurses. A closed ended questionnaire was administered to compare the level of knowledge regarding CPR. Fisher's exact test was used to compare the baseline socio demographic profile of subjects of two groups. Student's t test was used to compare the mean scores of both the groups. It was also found that there was no significant difference between two groups regarding knowledge of CPR ($p = 0.728$), and most of the nurses had average knowledge (15 – 21) regarding CPR.

Keywords: *Knowledge, Cardio Pulmonary Resuscitation, Staff nurses, Critical care area.*

INTRODUCTION

CPR is one of the most frequently performed care interventions in the world to save the patient's life, having cardiac arrest and nurses as responsible health professionals should be proficient in performing it.[1]

In India the annual incidences of sudden cardiac deaths accounts for 0.55 per 1000 population. Data also revealed that 80 % of sudden cardiac arrest victim has coronary artery diseases. [1] In Haryana the prevalence rate of cardiac arrest is 52.8 and 40.3 per 1000 males & females respectively.[5]

CPR is the only first aid treatment proven to save the life of a cardiac arrest victim until further help is arrives. It is an essential life saving technique, which is used in persons whose respiration and circulation of blood, have suddenly and unexpectedly stopped. This technique was first introduced and demonstrates by Dr. James Elm and Dr. Peter Safar[2]

The complication rate was higher among the patient who survives after CPR. It is reported that ribs fracture (68%), internal injuries (45%), vomiting (40%), aspiration (28%), and gastric distension (22%). Due to lack of adequate knowledge regarding CPR among staff nurses the complication rate is still higher in India.[4]

Nurses are an integral part of the healthcare system and are perceived to be knowledgeable in providing institutional care to the patients. Cardio-pulmonary Resuscitation is an important medical procedure which is needed for individuals who face sudden cardiac arrest. It is a combination of rescue breathing and chest compressions which is delivered to the victims who are thought to be in cardiac arrest. Being important members of the healthcare team, nurses are deemed to possess the basic skills and expertise which are needed to perform CPR.[10]

OBJECTIVES

The study attempted

- To assess the level of knowledge of staff nurses working in critical care and general area regarding CPR.
- To compare the level of knowledge regarding CPR among staff nurses working in critical care and general area.
- To correlate the level of knowledge with selected demographic variables like age, sex, qualification, working area, income, year of experience, and previous knowledge source

MATERIAL AND METHODS

A non experimental research design with Comparative study approach was selected to carry out the study. The study population comprised of all staff nurses working in critical care and general areas in a selected hospital. The sample size for the study was 100 staff nurses. Convenience sampling technique was used for selecting the sample. The tools used for the study were (i) closed ended questionnaire to assess the level of knowledge regarding cardio pulmonary resuscitation. Part A. Assessing demographic variables. Part B. Closed ended Questionnaire regarding knowledge on CPR.

FINDINGS

Table No : 1, Comparison of demographic variables as revealed by Fisher's exact test

Variable	Critical care area (n=50) n (%)	General area nurses (n=50) n (%)	p value
Age			
<25	31 (62%)	40 (80%)	0.268
26-30 years	15 (30%)	8 (16%)	
31-35 years	2 (4%)	1 (2%)	
36 & above	2 (4%)	1(2%)	
Gender			
Male	17 (34%)	5 (10%)	0.004
Female	33 (66%)	45 (90%)	
Qualification			
ANM	0 (0%)	1 (2%)	0.345
GNM	32 (64%)	30 (60%)	
B.Sc Nursing	16 (32%)	19 (32%)	
Other courses	2 (4%)	0 (0%)	
Marital status			
Married	15 (30%)	12 (24%)	0.326
Unmarried	35 (70%)	38 (76%)	
Widow/widower	0 (0%)	0 (0%)	
Separate	0 (0%)	0 (0%)	
Year of experience			
1 year	20 (40%)	34 (68%)	0.046
2-5 years	21 (42%)	12 (24%)	
6-10 years	7 (14%)	3 (6%)	
More than 11 years	2 (4%)	1 (2%)	
Present experience			
<6 months	3 (6%)	1 (2%)	0.283
6 months-1 yrs	22 (44%)	31 (62%)	
1yrs-3 yrs	18 (36%)	12 (24%)	
3 yrs-8 yrs	7 (14%)	6 (12%)	
In-service education			
Attended	32 (64%)	25 (50%)	0.113
Not attended	18 (36%)	25 (50%)	

Percentage wise comparison of subjects in the five categories of knowledge regarding CPR. At the baseline observation, 15 (30 %) of nurses in the ICU and 12(24%) of nurses in the general area were having poor knowledge. At the same time, 32 (64%) of nurses in critical care area and 34 (68%) of the nurses in the general area were having average knowledge. In critical care area 3(6%) of the nurses, and in general area 4 (8%) of the nurses are having good knowledge.

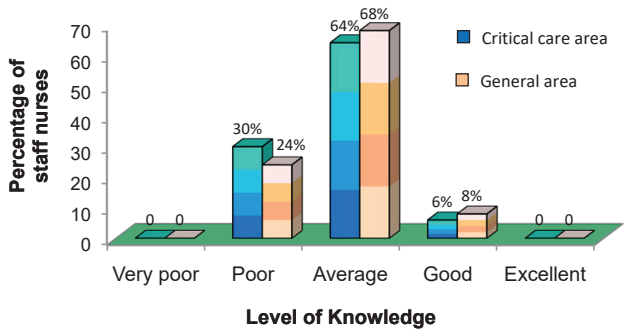

Figure No .1. Bar diagram showing percentage wise comparison of staff nurses according to their level of knowledge.

Table No .2. Baseline comparison of level of knowledge in 2 groups
N = 100

Variable	Mean ± SD (Range)	p value
Critical care area	16.5±3.44 (32-3)	0.728
General area	16.7±3.4 (34-4)	

Test : t test, $p<0.05$

The baseline comparison of two groups of nurses working in general and critical care area. Overall nurses working in general area had the high mean scores of 16.7 out of 35 as compared to 16.5 for critical care area nurses. According to p value i.e., 0.728 ($p >0.05$) nurses of general and critical care area are not comparable in terms of knowledge regarding CPR. The mean and SD of critical area nurses is 16.5 + 3.44 with range 32 – 3 whereas in general area mean and SD is 16.7 + 3.4 with range 34 – 4.

The association was examined between demographic variables like age, gender, qualification, marital status, year of experience, present worksite experience, in-service education and knowledge scores of nurses regarding CPR. It was found that there was no significant association.

CONCLUSION

The present study identified the nurses to have similar knowledge regarding CPR irrespective of their place of work, and it concludes that there is no influence of worksite experience on nurse's knowledge regarding CPR. Since all the nurses had average knowledge regarding CPR so it is suggested to organize regular training of the nurses on CPR.

Conflict of Interest: No conflict

Source of Funding: Self

Ethical Clearance: Not required.

REFERENCE

1. Wockhardthospitals Guide to wellness, sudden cardiac arrest. February 8: 2010. Available at: https://wockhardthospitals.wordpress.com/2010/02/08/sudden-cardiac-arrest-who-is-at-risk-cause-prevention/
2. Shaw . E. the history of CPR. 16 : 2013. Available at: https://blog.procpr.org/the-history-of-cpr-273-years-in-development
3. Field,J.M. American Heart Association.Advanced cardiovascular life support provider manual: Dallas, TX: American Heart Association; 2006
4. Rajeev Gupta, KD Gupta. Coronary Heart Disease in Low Socioeconomic Status Subjects in India. Indian heart journal. Volume; 26. 1999.
5. Mehra R. Global public health problem of sudden cardiac death. Journal of Electrocardiology. Nov-Dec 2007;40(6 Suppl):S118-22. [Medline].
6. Yaken E.M. Retention of cardiopulmonary resuscitations skill among nursing personnel, heart lung; vol. 18 no 5: 1989.
7. Bobrow BJ, Spaite DW, Berg RA, Stolz U, Sanders AB, Kern KB. Chest compression-only CPR by lay rescuers and survival from out-of-hospital cardiac arrest. JAMA. Oct 6 2010;304(13):1447-54
8. Curtis,K.et al. Emergency and trauma nursing. Sydney, Australia: Elsevier. 2007.
9. Reddy KS, Yusuf S. Emerging epidemic of cardiovascular disease in developing countries. Circulation. 1998;97:596–601
10. Hamilton R: nurse's knowledge and skill retention following cardiopulmonary resuscitation training: a review of literature. Journal of advanced nursing 2005, 51:288-97

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Effectiveness of Jacobson's Progressive Muscle Relaxation (JPMR) on Educational Stress among School Going Adolescents

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ABSTRACT

Adolescence is a transition period; which involves physical, emotional, mental, socio-sexual as well as educational changes. Adolescents are exposed to great deal of educational stress from parents, peers and the demand in current educational system. Aim: Aim of the study was to determine effectiveness of JPMR on educational stress among school going adolescents. Settings and Design: The study was conducted among 145 adolescents in Kerala, India. In the first phase of the study, a descriptive survey design was used; and in the second phase, experimental approach with before and after with control design was used. Material and Methods: Adolescents with high and moderate educational stress with hypertension, according to NHBPEP (National High Blood Pressure Education Programme) guidelines were classified into experimental and control groups. The experimental group was taught and practised JPMR for a period of 3 weeks. Statistical analysis used: Statistical analysis was done using SPSS version 17.

Results: Most of males (68.85%) and females (65.48%) had moderate educational stress. Highest mean score was for the component pressure from study (11.97) and the lowest mean score was for the component despondency (8.05). McNemer's Chisquare value 16.06 ($P<0.001$) showed that JPMR was effective in reducing the stress significantly. Conclusions: The results showed there is increasing prevalence of educational stress among adolescents and JPMR is effective in reducing it.

Keywords: *Effectiveness, Jacobson's Progressive Muscle Relaxation (JPMR), Educational Stress and School going Adolescents.*

INTRODUCTION

The experience of educational stress leads to a sense of distress, which is generally manifested in a variety of psychological and behavioural problems. [1] In the year 2011 alone, in India 2381 children; or more than six children per day committed suicide because of failure in examinations.[2] So there is a need for effective interventions to prevent and or reduce stress. Hence the researchers conducted the present study to determine effectiveness of JPMR on educational stress among adolescents.

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NEED FOR THE STUDY

Adolescence is a very critical time period, having less academic motivation and performance. Their attention is divided among many things, especially in creating an identity for themselves.[3] The main causes for adolescent stress are high expectation in academic or other performance, stressed out of negligent parent, abused or deprived childhood.[4]

Educational stress refers to unpleasant psychological situation that occurs due to educational expectations from parents, teachers, peers and family members, present educational and examination system, burden of home work etc.[5] Students have many academic demands like answering question in class, showing progress in subjects, understanding what teacher is teaching, school examinations, competing with class mates.[6]There

are many studies that have reported prevalence of educational stress among adolescents in India.[3-10] In a case control study conducted in Tamilnadu a total of 2,432 adolescents from class 9th to 12th were screened for depression using Minikid. The final sample consisted of 1,120 adolescents; 560-cases and 560 controls. Modified educational stress scale for adolescents was used to measure educational stress. Out of 612 adolescents diagnosed with depression 45.7% had moderate, 25.4% had mild and 19.6% had severe depression. Study findings revealed a moderate positive relationship between level of depression and level of educational stress (P<0.001).Adolescents with educational stress were at 2.4 times more risk of having depression than adolescents without academic stress (P<0.001).[11]

MATERIAL AND METHODS

The study was conducted in two phases. In the first phase, a descriptive survey design was carried out among 145 adolescents from classes 6th to 12th from two randomly selected schools in Kerala. A multistage stratified random sampling technique was used.[12] One division was selected randomly from each class of the selected schools. The study participants were selected randomly from the selected divisions. The study was conducted after obtaining written permission from District Director of Education (DDE) and Head Mistress of the selected schools. Informed consent was obtained from both the participants and their parents. During the first phase background information and educational stress and blood pressure were assessed.

In the second phase experimental approach with before and after with control design was used. Following the inclusion criteria, the participants with high and medium educational stress with elevated BP were identified. In order to avoid contamination, cases from one school (19/44) were considered control and cases from the second school (57/101) were taken as experimental group. From the experimental group 11 students had withdrawn, remaining 46 adolescents were taught and practiced JPMR for a period of three weeks.

Educational Stress

Data on educational stress was collected using standardised Educational Stress Scale for Adolescents (ESSA. ESSA contains 16 items from five variables viz. pressure from study, work load, worry about grades, self expectation and despondency**.** Content validity and reliability of the tool was established. Internal consistency α=0.81.[14,15,16]

Blood Pressure

BP was measured using mercury sphygmomanometer. Measurements were taken on the right arm of the subjects supported at heart level, after sitting at rest for five minutes. An average of three readings was taken as final observation. According to NHBPEP[13] hypertension is defined as average systolic BP and/or diastolic BP that is greater than or equal to the 95th percentile for sex, age, and height. A recording below 90th percentile was considered normal. A recording between 90th to < 95th percentile or ≥ 120/80 mm Hg was considered prehypertension. A recording between 95th to < 99th percentile plus 5 mm Hg was considered stage 1 hypertension and BP recording above 99th percentile plus 5 mm Hg was considered stage 2 hypertension.

Biochemical Profile: Serum cortisol levels were measured for randomly selected participants from experimental group. [17] None of them had abnormal serum cortisol values.

Jacobson's Progressive Muscle relaxation (JPMR)

JPMR is a simple relaxation technique including progressive contraction and release of entire muscle groups of the body following an audio commentary.The entire practice took about 15-20 min daily.[18]

Chi square test of significance was used to test the difference in proportions. A 'p' value of <0.05 was considered as statistically significant. Statistical analysis was done using SPSS version 17.

FINDINGS

A total of 145 subjects were studied of which 84 (58%) were females and 61 (42%) were males (Figure: 1).

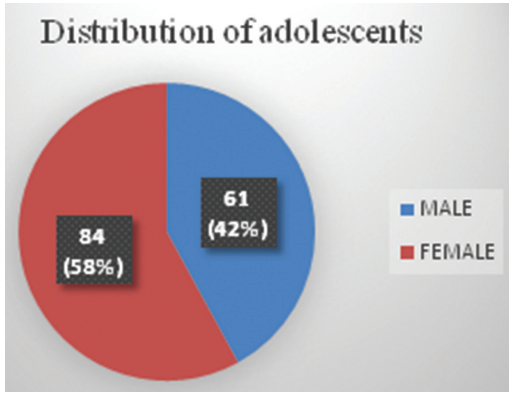

Figure: 1 Gender distribution of adolescents

Table-1 shows that most of males (68.85%) and females (65.48%) had moderate educational stress.

Table 1: Summary of ESSA scores among participants

ESSA score	Male		Female		Total	
	N	%	N	%	N	%
High	18	29.51	26	30.95	44	30.34
Moderate	42	68.85	55	65.48	97	66.90
Low	1	1.64	3	3.57	4	2.76
Total	61	100	84	100	145	100

Table-2 shows the class wise minimum, maximum and mean ESSA scores. Class XII had the highest mean ESSA score (56.38) whereas class IX had the lowest mean ESSA score (41.45).

Table 2: Class wise minimum, maximum mean and standard deviation of ESSA scores

Class	N	Minimum	Maximum	Mean	Std. Deviation
VI	24	29	65	51.25	11.737
VII	21	19	64	46.48	11.677
VIII	21	30	59	45.14	7.761
IX	22	30	69	41.45	10.848
X	21	34	68	47.48	9.511
XI	20	36	65	48.60	7.963
XII	16	43	68	56.38	6.109

Table-3 shows the components of educational stress and their minimum, maximum and mean scores. The study findings revealed that the highest mean score was for pressure from study (11.97) and the lowest mean score was for despondency (8.05).

Table 3: Components of educational stress and their minimum, maximum and mean scores

Components	N	No. of items	Scores			
			Minimum	Maximum	Mean	Std. Deviation
Pressure from study	145	4	5	19	11.97	3.387
Workload	145	3	3	14	8.13	2.416
Worry about grades	145	3	3	15	11.12	2.796
Self expectation	145	3	2	15	8.57	3.138
Despondency	145	3	3	15	8.05	2.782

Table-4 depicts the correlation of various components and educational stress. Based on it pressure from study is the most influencing factor and the least influencing factor is worry about grades ($p < 0.001$).

Table 4: Correlation of various components and educational stress

Components	Total	Correlation coefficient	P value
Pressure from study	145	0.835	<0.001
Workload	145	0.658	<0.001
Worry about grades	145	0.602	<0.001
Self expectation	145	0.761	<0.001
Despondency	145	0.702	<0.001

Table -5 shows that there was no significant association between educational stress and variables like age, gender and class; which means that the difference in the proportions of the study participants with educational stress between the age groups (11-13 and 14-17 years); gender (male and female); and class (VI-VIII and IX-XII) was not statistically significant.

Table 5: Distribution of educational stress among adolescents according to different variables

Demographic variables	ESSA SCORE						χ^2
	HIGH		MEDIUM		LOW		P value
Age	N	%	N	%	N	%	
(0.29)							2.45
11-13	22	33.85	40	61.54	3	4.61	
14-17	22	27.5	57	71.25	1	1.25	
Gender							
Male	18	29.51	42	68.85	1	1.64	0.56 (0.75)
Female	26	30.95	55	65.48	3	3.57	

Class							
VI- VIII	22	33.33	41	62.12	3	4.54	2.17 (0.34)
IX- XII	22	27.85	56	70.88	1	1.27	
BP							
YES	10	23.81	32	76.19	0		3.23 (NS)
NO	34	33.00	65	63.12	4	3.88	

Table- 6 explains effectiveness of JPMR on educational stress. The difference in proportions of adolescents with educational stress before and after JPMR was statistically significant (Mc Nemer Chi-square =16.06; p<0.001).We conclude that JPMR was effective in reducing the stress significantly.

Table 6: Effectiveness of JPMR on educational stress

Group			Post-test			Total
			W	H	M	
Experimental	Pre-test	H	8	7	18	33
		M	3	0	21	24
		Total	11	7	39	57
Control	Pre-test	H		10	1	11
		M		1	7	8
		Total		11	8	19

DISCUSSION

The study findings revealed most males (68.85%) and females (65.48%) had moderate educational stress. Among the participants 30.34% had high educational stress; while only 2.76% of the participants had low educational stress. A study conducted among 190 adolescents in Kolkata also reported that most of the students 63.5% felt stressed because of academic pressure. [8]Another study conducted in New Delhi among 100 adolescents revealed that majority (48%) had average level of frustration and only 17% had low level of frustration. Majority (54%) had average pressure related to academic stress and 8% of respondents with high level of frustration needed counselling[3]. In the present study Class XII students had highest mean educational stress (56.38) whereas class IX had the lowest (41.45).

The study findings showed that highest mean score was for the component pressure from study (11.97) and the lowest mean score was for the component despondency (8.05). Similar findings were reported by a study conducted among 190 adolescents in class 11th and 12th grade in Kolkata .About two third (66 %) of students reported that their parents pressurize them for better academic performance. About 80% of the students had some anxiety related to examination.[8]

The correlation computed between various components of educational stress showed that the most and least influencing factors were pressure from study and worry about grades respectively (p<0.001). A study conducted among 190 adolescents studying in class 11th and 12th grade in Kolkata also revealed that academic stress was positively correlated with parental pressure (P = .001). [8]Sources of academic stress are social factors, family factors and school factors like too much homework, preparing for tests, unsatisfactory academic performance, lack of interest in a particular subject and teacher's punishment.[5]

There was no significant association between educational stress and variables like age, gender and class of study. A study in Punjab analyzed gender difference with regard to academic stress among urban and rural adolescents. The findings revealed that female had slightly higher educational stress (M = 332.74) than male (M 326.72) in rural area. The mean educational stress of urban male adolescents was 321.18; whereas that of female adolescents was 320.84. This concludes that there was no significant difference in rural and urban male and female adolescents; suggesting academic stress is present in same amount in both gender, and locality.[4] Another study conducted among 200 senior secondary school students in Haryana revealed females had more educational stress than males (p<0.01).[6] In a study conducted among 400 adolescents from class IX and X in Delhi, it was found that psychological distress was 2.45 times more likely to occur among study

population who were in class X compared to class IX.[10] Another study conducted in Bangalore among 800 urban adolescents reported academic difficulty by 57% of participants; but no association between the grade and academic problems.[19]

Current study showed that JPMR was effective in reducing educational stress significantly. An experimental study was conducted among 30 subjects in the age group 18-30 years with stress and low back pain more than 12 weeks. Experimental group received JPMR along with hot pack; whereas control group received only hot pack. Back pain, stress and disability were measured before intervention and after 1st, 2nd, 3rd and 4th week. ANOVA test showed significant differences for pain, stress and disability in both groups within the experimental and control groups. [20]

A study conducted among forty two adolescent boys in Karnataka reported 66% of them were stressed. Life skills and stress management modules from NIMHANS model was used. Pre, post and three month follow up assessments showed significant reduction in mean stress scores from133 to 116 post one month and to 117 post three month ($p<0.05$). The study findings suggested that group based stress management programs would be beneficial to reduce stress levels. [21]

CONCLUSION

The present study findings also support the previous findings that adolescent experience educational stress irrespective of their gender, age and class of study. JPMR is effective in reducing educational stress among adolescents**.** Doctors had reported increasing incidence of stress among adolescents [22]. Adolescents with severe educational stress have to be identified early and prompt interventions to be implemented. Supporting measures like relaxation could be included as part of curriculum so as to implement on a regular basis at schools.

Conflicting Interest: None declared

Source(s) of support: No source of support was received.

Ethical clearance: The study was conducted after obtaining approval of Institutional Ethical Committee and permission from District Director of education, headmistress of schools and participants.

REFERENCES

1. Kumar V, Talwar R. Determinants of psychological stress and suicidal behavior in Indian adolescents: a literature review. J. Indian Assoc. Child Adolesc. Ment. Health 2014; 10: 47-68.
2. National Crime Records Bureau (NCRB). Ministry of Home Affairs, Government of India. Available from: URL: http://www.ncrb.nic.in.
3. Kumari C, Sharma P, Bansal R. Level of stress and coping strategies among adolescents. IRC'S international Journal of multidisciplinary Research in Social & Management Sciences 2014; 2: 21-6.
4. Bartwal R S, Raj A. Academic Stress among School Going Adolescents In Relation To Their Emotional Intelligence. International Journal of Innovative Research and Development 2013; 2: 416-24.
5. Sarita, Sonia. Academic stress among students: role and responsibilities of parents. International Journal Applied Research 2015; 1: 385-8.
6. Lal K. Academic stress among adolescents in relation to intelligence and demographic factors. American International Journal of Research in Humanities, Arts and Social Science 2014; 14: 123-28.
7. Kadapatti M G , Vijayalaxmi A H M. Stressors of Academic Stress-A Study on Pre-University Students. Indian J. Sci.Res 2012; 3: 171-5.
8. Deb S, Strodil E, Sun J. Academic stress, Parental pressure, Anxiety and Mental health among Indian School students. International Journal of Psychology and Behavioral Science 2015; 5: 26-34.
9. Latha K S, Reddy H. Patterns of stress, coping styles and social support among adolescents. J. Indian Assoc. Child Adolesc. Ment. Health 2006; 3: 5 -10.
10. Roy R, Mukherjee S, Chaturvedi M, Agarwal K, Kannan AT. Prevalence and predictors of psychological distress among school students in Delhi. J. Indian Assoc. Child Adolesc. Ment. Health 2014; 10: 150-66.
11. Jayanthi P, Thirunavukarasu M, Rajkumar R. Academic stress and depression among adolescents; A cross sectional study. Indian pediatr 2014; 52: 217-19.

12. Kothari CR, Garg G. Research Methodology Methods and Techniques. 3rd Edition. New Age International Publishers 2014; 59-61.

13. National High Blood Pressure Education Program Working Group on High Blood Pressure in Children and Adolescents. The fourth report on the diagnosis, evaluation, and treatment of high blood pressure in children and adolescents. May 2005. NIH Publication No5267. AccessedAugust29,2014 http://www.nhlbi.nih.gov/health/prof/heart/hbp/hbp_ped.pdf

14. Sun J, Dunne M P, Hou X, Xu A. Educational Stress Scale for Adolescents: Development, Validity, and Reliability With Chinese Students. Journal of Psycho educational Assessment 2011, 29: 534-546.

15. Sun J, Dunne M P, Hou X , Xu A. Educational stress among Chinese adolescents: Individual, family, school and peer influences. Educational Review 2012; X: 1-18.

16. Dunne M P, Sun J, Nguyen ND, Truc T T, Loan KX, Dixon J. The Influence of Educational Pressure on the Mental Health of Adolescents in East Asia: Methods and Tools for Research. Journal of Science 2010; 109-22.

17. Oparil S, Zamam M A, Calhoun DA. Pathogenesis of hypertension. Ann intern Med 2003; 139: 761-76.

18. Institute for Psychotherapy and Management Science. Jacobson's Progressive Muscle Relaxation. Text book on psychotherapy. Mumbai 2004; 92-7.

19. Singhal M, Manjula M, Vijay Sagar K J. Subclinical depression in Urban Indian adolescents: Prevalence, felt needs, and correlates. Indian J Psychiatry 2016; 58: 394-402

20. Dhyani D, Sen S, Raghumahanti R. Effect of Progressive Muscular Relaxation on stress and disability in subjects with chronic low back pain. IOSR Journal of Nursing and Health Science 2015; 4: 40-45.

21. Roy K, Kamath VG, Kamath A, Hedge A, Alex J and Ashok L: Effectiveness of Life Skill Training Program on Stress among Adolescents at a School Setting. J. Indian Assoc. Child Adolesc. Ment. Health 2016, 12(4): 309-22

22. Lifestyle changes, stress make teens prone to hypertension- says Doctors. The Times of India News Paper, Chennai; May 17th 2015.

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Effectiveness of Video Assisted Teaching Regarding Colonoscopy Procedure on Knowledge and Pre Procedure Anxiety among Patients Undergoing Colonoscopy

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ABSTRACT

Back ground of the problem

Intestinal disorders especially colorectal cancer is the most important cause of mortality and morbidity in the world. Colorectal cancer is the third most common cancer in the world, with nearly 1.4 million new cases diagnosed in 2013. It is predicted that worldwide the number of cases will rise to 1.36 million for men and 1.08 million for women by 2035. Intestinal diseases in Kerala is malignant resulting in death at young age.

Objectives of the study

- Assess the knowledge and pre procedure anxiety among patients undergoing colonoscopy in selected hospitals at Kollam
- Evaluate the effectiveness of video assisted teaching on knowledge and pre procedure anxiety regarding colonoscopy procedure among patients undergoing colonoscopy in selected hospitals at Kollam
- Find out the association between knowledge and pre procedure anxiety regarding colonoscopy procedure among patients undergoing colonoscopy with selected demographic variable like age, gender, education in selected hospitals.

Research Methodology: Quantitative research approach was selected with quasi experimental pre test – post test control group design. Purposive sampling was used. Sample size was 60, 30 each in experimental and control group. Three days before the colonoscopy, collection of base line data and pre test knowledge and pre procedure anxiety was assessed using knowledge questionnaire and State Scale of Anxiety for both experimental and control group. Then video assisted teaching was given to experimental group only. On the day of procedure post test was conducted for both experimental and control group using the same tool. The data collected was tabulated and analyzed using descriptive and inferential statistics.

Result: The finding of the study were that the mean post test knowledge score of experimental group (17.7) was greater than the mean post test score of control group (8.97).The p value =0.001 less than 0.05 level of significance. The mean post test pre procedure anxiety score of experimental group (37.28) was lesser than the mean post test anxiety score of control group (48). The p valve =0.001 lesser than 0.05 level of significance. The association between knowledge and pre procedure anxiety with demographic variable showed no significance at 0.05 level.

Conclusion: The present study suggested that video assisted teaching improved the knowledge and reduced the pre procedure anxiety of patient's undergone colonoscopy.

Keywords: *Video assisted teaching, Patients undergoing colonoscopy, Knowledge and Anxiety.*

INTRODUCTION

Colonoscopy procedure can be a stressful and anxiety provoking condition for many patients. Anxiety is a state where a person experiences a sensation of concern, along with activation of the sympathetic system, in response to a vague and unspecified threat. Evidence showed that there was a reduction in anxiety and stress when patients received information about procedure likely to be experienced.

The patients have many expectations, feelings and concerns when they are involved in waiting for an event, especially when this situation deals with something unknown. In situations of hospitalization, medical treatment and diagnostic examinations, the waiting period can become distressful and can lead to stress and anxiety. The nursing guidance, in a systematic way, qualifies and contributes to the actions at any level of health care and thus increases the knowledge of the patient regarding their disease and the procedures necessary for their treatment, thereby collaborating with the work of the multidisciplinary team. One of the complicating factors of this process is the time required for its execution, often impossible due to the number of patients to be cared for and guided.

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of video assisted teaching regarding colonoscopy procedure on knowledge and pre procedure anxiety among patients undergoing colonoscopy in selected hospitals at Kollam

OBJECTIVES

The objectives of the study were:

- Assess the knowledge and pre procedure anxiety among patients undergoing colonoscopy in selected hospitals at Kollam
- Evaluate the effectiveness of video assisted teaching on knowledge and pre procedure anxiety regarding colonoscopy procedure among patients undergoing colonoscopy in selected hospitals at Kollam
- Find out the association between knowledge and pre procedure anxiety regarding colonoscopy procedure among patients undergoing colonoscopy with selected demographic variable like age, gender, education in selected hospitals.

Hypotheses

H_1: There will be significant difference between pre test and post test knowledge score regarding colonoscopy procedure in the experimental group after the video assisted teaching

H_2: There will be significant difference between the post test knowledge score regarding colonoscopy procedure in experimental and control group

H_3: There will be significant difference between pre test and post test pre procedure anxiety score regarding colonoscopy procedure in the experimental group after the video assisted teaching

H_4: There will be significant difference between the post test pre procedure anxiety score regarding colonoscopy procedure in experiment and control group.

H_5: There will be significant association between pre test knowledge score regarding colonoscopy procedure and selected demographic variables.

H_6: There will be significant association between pre test pre procedure anxiety score regarding colonoscopy procedure and selected demographic variables.

MATERIALS AND METHOD

Research Approach: The quantitative approach used in the study

Research Design: Quasi experimental Pre test Post test control group design

Variables: The independent variable chosen for this study was video assisted teaching and the dependent variable was knowledge and pre procedure anxiety.

Population: In this study the accessible population would comprised patients undergoing colonoscopy.

Sampling technique: The samples in the present study were selected using purposive sampling.

Selection and development of Tool

Section A: Consists of personal information like age, gender, education, occupation, smoking history, alcohol history and Family history of colon cancer.

Section B: Assess the knowledge level of patients about colonoscopy procedure by using Structured Knowledge Questionnaire.

Section C: Assess the pre procedure anxiety of patients undergoing colonoscopy by using State Scale of Anxiety.

Content Validity: Research tool was sent to subject experts for content validity. Their valuable suggestions and opinions was collected on relevancy, appropriateness and accuracy of the tool.

Reliability of tool: The reliability for S- anxiety of state trait anxiety inventory was 0.82 and for knowledge questionnaire was 0.77

Pilot study: The pilot study was conducted in Bishop Benziger Hospital at kollam from 26-12-2014 to 2-1-2015. Pilot study was carried out on 6 similar samples like main study, of which 3 samples were included in the experimental group and 3 samples in control group, those who met inclusion criteria.

Data collection procedure

The data was collected after obtaining administrative permission from Bishop Benziger Hospital and Upasana Hospital at Kollam and the informed consent from patients. Period of the study extended for one month from January 19 to February 19-2015. The samples of those who met the inclusion criteria were identified and the investigator introduced her to the samples and informed consent was obtained. Sixty samples were selected using purposive sampling method and assigned randomly to both the experimental and control group. Three day before the colonoscopy, collection of base line data and pre test knowledge and Pre procedure anxiety was assessed using Structured knowledge questionnaire and state scale of anxiety for both experimental and control group. Then video assisted teaching was given to experimental group only. On the day of procedure post test was conducted for both experimental and control group using the same tool. Patients were encouraged to interact with the investigator after the video clippings. During the interactive session the questions related to the particular video clippings were answered and additional information which they could not understand through watching video was also provided.

FINDINGS

Sample characteristics: Description of Demographic variables under study.

This section has dealt with results of the sample characteristics under study. The sample characteristics under study included age, gender, education, occupation, smoking history, alcohol history and family history of colon cancer. The demographic characteristics of both the experimental and control group were analyzed using descriptive statistics including percentage distribution.

According to the age wise distribution the highest percent (46.6 percent) of patients from both experimental and control groups were in the age group of 41-50 years. Out of 60 samples of both in experimental and control group the percentage of gender were equal (male – 56.6 percent, female – 43.3 percent). In relation to education 43.3 percent of patients in experimental group had primary education and 66.6 percent of patients in control group had secondary education. In relation to occupation 40 percent of patients in experimental group were unemployed and 63.3 percent of patients in control group were private employs. Regarding to alcohol history 33.3 percent of patients in experimental group and 43.3 percent in control group had alcohol history. Regarding to smoking history 33.3 percent of patients in experimental group and 40 percent in control group had smoking history. Out of 60 samples 100 percent of samples were free from family history of colon cancer.

Effectiveness of video assisted teaching on knowledge among clients undergoing colonoscopy.

Comparison of knowledge between pre test and post test knowledge of experimental group.

Table 1: Mean, standard deviation and t value of pre test and post test knowledge score of experiment group after video assisted teaching.

	Mean	SD	t
Experimental group	17.17	0.91	27.9
Control group	8.97	1.33	

n = 30

Tabulated t (29) value = 2.045 *Significant at 0.05 level

Table 1 shows that calculated t value is greater than tabulated t value ($p<0.05$) test is significant. The mean post test score of experimental group (17.17) was greater than the mean pre test score (8.53) . The $p = 0.001$ less than 0.05 level of significance. So the research hypothesis H1 was accepted. Hence it proved that video assisted teaching was effective in improving the knowledge of the patients undergoing colonoscopy in experimental group.

Comparison of post test knowledge between experimental and control group.

Table 2: Mean, standard deviation and t value of post test knowledge score of experimental and control group.

	Mean	SD	t
Pre - test	8.53	1.41	28.29
Post – test	17.17	0.91	

N = 60

Tabulated t value t (58) = 2.00 Significant at 0.05 level

Table 2 shows that calculated t value is greater than tabulated t value (P<0.05) test is significant. The mean post test score of experimental group (17.17) is greater than the mean post test score of control group (8.97). The p value = 0.001 less than 0.05 level of significance. So the research H2 hypothesis is accepted. Hence the video assisted teaching is effective in improving the knowledge of patients undergoing colonoscopy.

Effectiveness of video assisted teaching on pre-procedure anxiety among patients undergoing colonoscopy.

Comparison of pre- procedure anxiety between pre test and post test knowledge of experimental group.

Table 3: Mean , standard deviation and t value of pre test and post test pre procedure anxiety in the experimental group.
n = 30

	Mean	SD	t
Pre - test	49.23	4.98	13.38
Post – test	37.28	2.92	

Tabulated t value t (29) = 2.045

*Significant at 0.05 level

Table 3 shows that calculated t value is greater than tabulated t value (p<0.005) test is significant. The mean post test score of experimental group (37.28) is lesser than the mean pre test score (49.23). The P value = 0.001 is less than 0.05 level of significance. So the research hypothesis H3 is accepted. Hence the video assisted teaching is effective in reducing the pre procedure anxiety of the patients undergoing colonoscopy.

Comparison between post test scores of pre-procedure anxiety of experimental and control group.

Table 4: Mean , standard deviation and t value of post test pre procedure anxiety score of experimental and control group
N = 60

	Mean	SD	t
Experimental group	37.28	2.92	13.75
Control group	48.0	3.12	

Tabulated t value t (58) = 2.00 *Significant at 0.05 level

Table 4 shows that calculated t value is greater than tabulated t value (p<0.005) the test is significant. The mean post test score of control group (48) is greater than the mean post test score of experimental group (37.28) . The p value =0.001 lesser than 0.05 level of significance. So research hypothesis H4 is accepted. Hence the video assisted teaching is effective in reducing the pre procedure anxiety of the patients undergoing colonoscopy.

Association between knowledge and selected demographic variables like age, gender, education, occupation, smoking history and alcohol history.

The association of knowledge and selected demographic variables including age, gender, education, occupation, smoking history, alcohol history and family history of colon cancer were computed by chi- square. The chi-square value 6.35 for age , 0 .77 for gender , 4.08 for education , 0 .301 for occupation , 2.14 for smoking history and 2.66 for alcohol history . As p value is greater than 0.05 level significance for all variables. Since the research hypothesis H5 is rejected. So there is no association between knowledge and selected demographic variables such as age, gender, occupation, education, smoking history and alcohol history.

Association between pre-procedure anxiety and selected demographic variables like age, gender, education, occupation, smoking history and alcohol history.

The association of pre procedure anxiety and selected demographic variables including age, gender, education, occupation, smoking history, alcohol history and family history of colon cancer were computed by chi- square. The chi-square value 3.44 for age , 0 .778 for gender, 0 .890 for education , 0 .726 for occupation , 1.76 for smoking history and 0 .632 for alcohol history . As p value is greater than 0.05 level significance for all variables. Since the research hypothesis H6 is rejected. So there is no

association between pre procedure anxiety and selected demographic variables such as age, gender, occupation, education, smoking history and alcohol history.

DISCUSSION

The present study was conducted to evaluate the effectiveness of video assisted teaching regarding colonoscopy procedure on knowledge and pre procedure anxiety among patients undergoing colonoscopy in selected hospitals at Kollam. In order to achieve the objectives of the study pre test post test control group design was adopted. The subjects were selected by purposive sampling method. The samples comprised of 30 samples in the experimental group and 30 in the control group.

Evaluate effectiveness of video assisted teaching on knowledge and pre procedure anxiety among patients undergoing colonoscopy.

Regarding knowledge

In the present study mean post test score of experimental group (17.17) is greater than the mean pre test score (8.53) . The p valve = 0.001 less than 0.05 level of significance and the mean post test score of experimental group (17.7) is greater than the mean post test score of control group (8.97). The p value = 0.001 less than 0.05 level of significance. Hence the video assisted teaching is effective in improving the knowledge of patients undergoing colonoscopy.

Regarding pre -procedure anxiety

In the present study the mean post test score of experimental group (37.28) is lesser than the mean pre test score (49.23). The P value = 0.001 is less than 0.05 level of significance and the mean post test score of control group (48) is greater than the mean post test score of experimental group (37.28) . The p value =0.001 lesser than 0.05 level of significance. Hence the video assisted teaching is effective in reducing the pre-procedure anxiety of the patients undergoing colonoscopy.

RECOMMENDATIONS

- Replicate this study by utilizing an increased sample size. A larger sample size would help to create a higher statistical impact that would increase the possibility of finding statistical significance that can be generalized.
- Comparative study can be conducted to assess the effectiveness of video assisted teaching in different invasive procedures.
- Similar video based teaching can be given to clients before any diagnostic or therapeutic interventions.

CONCLUSION

The present study aimed to find the effectiveness of video assisted teaching on knowledge and pre procedure anxiety among clients undergoing colonoscopy. The result shows that there was significant increase in knowledge and reduction in anxiety among patients undergoing colonoscopy after video assisted teaching. So the video assisted teaching was effective in improving the knowledge and reducing the anxiety of patients undergoing colonoscopy.

Conflict of interest: None

Source of Funding: Self

Ethical Clearance: Obtained from institutional ethical committee

REFERENCES

1. Wenming Wu, Xu Guo etal. Prevalence of Functional Gastrointestinal Disorders. Journal of gastroenterology research and practice. [Internet].[cited 2013]; March 6. http://dx.doi.org\10.1155\2013\497585.
2. Ferlay J, Soerjomataram etal. Cancer incidence and mortality Worldwide, International agency for research on cancer. [Internet]. [Cited 2014] http://globocon.iarc.fr.\int\cancerfacts.
3. Upendra Kaul. Vineet Bhatia. Perspective on endoscopic procedures. Indian journal of medical research. [Internet]. [Cited 2010 April 30]. http://icmr.nic.in\ijmr\2010\november\1111.pdf.
4. Steffenio G, Viada E. Nursing and medical staff of the endoscopic unit effectiveness of video based patient information. Journal of diagnostic medicine. 2010 8(5):348-53.
5. Gul pinar, Ayten Kurt. Impact of systematic preoperative instruction on the level of postoperative anxiety. World journal of surgical oncology. 2011 (9):38.
6. Ruffinengo C, Versino E, Renga G. Effectiveness of an informative video on reducing anxiety levels in patients undergoing colonoscopy. SAGE journal. Italy. 2010 1(8):57-61.

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Documentation in Nursing Practice

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ABSTRACT

Documentation is a vital aspect of nursing practice. It involves entering data that requires the use of clear, concise and complete words in the client's record. This is also referred as charting. This chart can be accessed by the client, physical therapist and the pharmacist or other members of the health care team. The client's consent is needed before the chart can be seen by other persons like a relative. The client's chart is owned by the hospital or institution. Record keeping is an integral part of nursing practice. It is a tool of professional practice and one that should help the care process. Documentation helps to Improve the quality of nursing care and promote nursing professional standards. The guidelines to be followed by the nurses while documenting nursing care is mandatory.

Keywords : *purposes, methods, elements of effective documentation, guidelines of documentation*

INTRODUCTION

Documentation allows nurses and other care providers to communicate about the care provided to the client. Documentation also promotes good nursing care and supports nurses to meet professional and legal standards.

DEFINITION [1]

Nursing documentation is any written or electronically generated information that describes the care or service provided to a particular client or group of clients. Through documentation nurses communicate to other healthcare professionals their observations, decisions, actions and outcomes of care. Documentation is an accurate account of what occurred and when it occurred.

PURPOSES OF DOCUMENTATION[2]

A. Communication

Documentation is used as a communication; provides continuity of care among nurses changing of shifts. Proper documentation ensures continuity of care by facilitating evaluation of a client's condition based on documented needs.

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B. Education

Documentation serves also as a tool to enhance students learning through a review of the client's records.

C. Research

Documented data from a client may serve as a data source for researchers. It can initially be used to screen possible subjects for a research study.

D. Legal-documentation

The information contained in the client's medical record serves to provide proof of what exactly happened to a client.

E. Auditing-monitoring

The charts are used to determine the degree to which nursing care standards are met.

METHODS OF DOCUMENTATION[3]

Three methods common documentation

Focus charting

This method of documentation, the nurse identifies a "focus" based on client concerns or behaviours determined during the assessment. For example, In focus charting, the assessment of client status, the interventions

carried out and the impact of the interventions on client outcomes are organized under the headings of Data, Action and Response (DAR).

Data : Subjective and/or objective information that supports the stated focus or describes the client status at the time of a significant event or intervention.

Action : Completed or planned nursing interventions based on the nurse's assessment of the client's status

Response : Description of the impact of the interventions on client outcomes. Flow sheets and checklists are frequently used as an adjunct to document routine and ongoing assessments and observations such as personal care, vital signs, intake and output, etc. Information recorded on flow sheets or checklists does not need to be repeated in the progress notes.

Soap/soapie (r) charting

Documentation is generally organized according to the following headings:

S = Subjective Data (e.g., how does the client feel?)

O = Objective Data (e.g., results of the physical exam, relevant vital signs)

P = Plan (e.g., does the plan stay the same? is a change needed?)

I = Intervention (e.g., what occurred? what did the nurse do?)

E = Evaluation (e.g.,what is the client outcome following the intervention?)

R = Revision (e.g., what changes are needed to the care plan?) Similar to focus Charting, flow sheets and checklists are frequently used as an adjunct to Document routine and ongoing assessments and observations.

Narrative charting

Narrative charting is a method in which nursing interventions and the impact of these interventions on client outcomes are recorded in chronological order covering a specific time frame. Data is recorded in the progress notes, often without an organizing framework. Narrative charting may stand alone or it may be complemented by other tools, such as flow sheets and checklists.

ELEMENTS OF EFFECTIVE DOCUMENTATION[4]

- Documentation should be accurate, complete, and objective.
- Date and time
- Use appropriate forms
- Identify the client
- Write in black ink
- Use standard abbreviations
- Spell correctly
- Write legibly
- Correct errors properly
- Write on every line
- Chart omissions (for example, a treatment is not provided or medication is not administered because the client was in x-ray)
- Sign each entry
- Documenting a medication error

GENERAL DOCUMENTATION GUIDELINES [5]

- Ensure that you have the correct client record or chart and that the client's name and identifying information are on every page of the record.
- Document as soon as the client encounter is concluded to ensure accurate recall of data
- Date and time each entry.
- Sign each entry with your full legal name and with your professional credentials, as per your institutional policy.
- Do not leave space between entries.
- If an error is made while documenting, use a single line to cross out the error, then date, time, and sign the correction (follow institutional policy); avoid erasing, crossing out, or using correction fluid.
- never change another person's entry, even if it is incorrect.
- The first entry of the shift should be made early (e.g., at 7:30 a.m. for the 7-3 shift, as opposed to

11:30 a.m. or 12 p.m.). Chart at least every 2 hours, or as per institutional policy.

- Use quotation marks to indicate direct client responses (e.g., "I feel lousy").
- Document in chronological order; if chronological order is not used, state why.
- Write legibly.
- Use a permanent-ink pen (black is usually preferable because it photocopies well).
- Document in a complete but concise manner by using phrases and abbreviations as appropriate.
- Document all telephone calls that you make or receive that are related to a Client's Case.

Conclusion: Documentation in Nursing Practice is anything written or electronically generated that describes the status of client on the care or services given to that client. The purpose of documentation in nursing practice is to facilitate communication, to promote good nursing care and to meet professional and legal standards.

Conflict of interest: None

Source of Funding- self or other source: self

Ethical clearance : nil

REFERENCES

1. Dr.Tong Wah Kun, (2010) princess margaret hospital, endorsed by nursing Council Hongkong. Definition[Internet] Available from DOI No: WWW.nchk.org.hk / file manager / en/pdf / nursing – documentation–e,pdf.
2. Albert Arandid, (2013), purposes of documentation [Internet] Available From DOI No: nursingclient. blogspot.in.20/3/09/nursing documentation-purposes.html.
3. Raje Rajagopal, methods of documentation. [Internet] Available from DOI No: https: /www .Slideshare.Net/rajeerajagopal/different-types-of–documentation – methods.
4. Dr. Ali.D.Abbas / Instructor FON dept, college of nursing university of Baghdad. Effective elements of nursing doumentation, [Internet] Available from DOI No: www.conursing.uobaghdad. Equ. iq/upload/others/ d.ali % 20d / nursing % 20 documentation pdf.
5. Dr. Ali.D.Abbas / Instructor FON dept, college of nursing university of Baghdad. General documentation guidelines,[Internet] Available from DOI No: www.conursing.uobaghdad. Equ.iq/upload/others/d.ali % 20d / nursing % 20 documentation pdf.

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Importance of Stem Cell Therapy

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ABSTRACT

Stem cell therapy is the use of stem cells to treat or prevent a disease condition. The stem cells collected from various sources from human body such as Bone marrow, peripheral blood, Umbilical cord blood from newborn baby also in use. Any disease in which there is tissue degeneration can be a potential candidate for stem cell therapies Such as Alzheimer's disease, Parkinson's disease, Spinal cord injury, Heart disease, Severe burns, Diabetes. Tissue Repair Involves in Regenerate spinal cord, heart tissue or any other major tissue in the body. Adult bone marrow stem cells injected into the hearts are believed to improve cardiac function in victims of heart failure or heart attack. Leukemia patients treated with stem cells emerge free of disease. Stem cells also have reduces pancreatic cancers in some patients. In Rheumatoid Arthritis Client also Adult Stem Cells may be helpful in starting repair of eroded cartilage. Type I Diabetes client treated with Embryonic Stems Cells injected to become pancreatic islets cells needed to secrete Insulin.

Keywords: *Bone Marrow Stem Cell, Peripheral Blood Stem Cell, Umbilical Cord Blood Stem Cell, Amniotic Stem Cells, Fetal Stem Cells, Embryonic Stem Cells.*

INTRODUCTION

Stem-cell therapy is the use of stem cells to treat or prevent a disease condition. Bone marrow transplant is the most widely used stem-cell therapy, but some therapies derived from umbilical cord blood are also in use. Research is underway to develop various sources for stem cells, and to apply stem-cell treatments for neurodegenerative diseases & conditions such as diabetes, heart disease, and other conditions.

DEFINITION[1]

Stem cell therapy is introduction of new adult stem cells into damaged tissue in order to treat disease or injury. The ability of stem cells to self-renew and give rise to different cells, that can potentially replace diseased and damaged areas in the body.

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TYPES OF STEM CELLS[2]

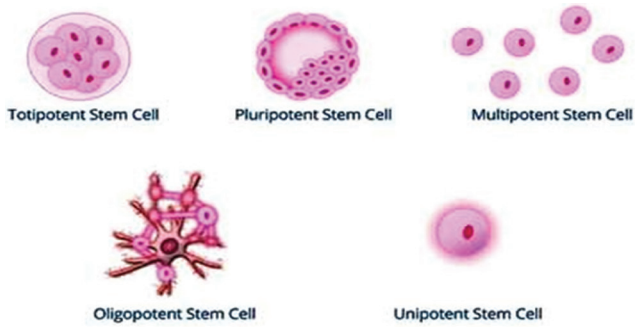

Figure: 1 Types of Stem Cells

Totipotent or (Omnipotent) Stem Cells

These stem cells are the most powerful, they can differentiate into embryonic as well as extra-embryonic tissues such as chorion, yolk sac, amnion, and the allantoids. The most important characteristic of a totipotent cell is that it can generate a fully-functional, living organism.

Example: Fertilized Egg (formed when a sperm and egg unite to form a zygote). It is at or around four day's post-fertilization that these cells begin to specialize into pluripotent cells.

Pluripotent Stem Cells

The next most powerful type of stem cell is the pluripotent stem cell.The importance of this cell type is

that it can self-renew and differentiate into any of the three germ layers, which are ectoderm, endoderm and mesoderm. These three germ layers further differentiate to form all tissues and organs within a human being.

There are several known types of pluripotent stem cells. Among the natural pluripotent stem cells, Embryonic Stem Cells are the Best Example : cells from inner cell mass of blastocyst. However a type of "human-made" pluripotent stem cell also called which is the Induced pluripotent stem cell (IPS cell).

Multipotent Stem Cells

Multipotent stem cells are a middle-range type of stem cell, in that they can self-renew and differentiate into a specific range of cell types

Example : Mesenchymal Stem Cell (MSC).

Mesenchymal stem cells can differentiate into osteoblasts (a type of bone cell), myocytes (muscle cells), adipocytes (fat cells), and chondrocytes (cartilage cells).These cells types are fairly diverse in their characteristics, that is why mesenchymal stem cells are classified as multipotent stem cells.

Oligopotent Stem Cells

Oligopotent stem cells are similar to the prior category (multipotent stem cells), but they become further restricted in their capacity to differentiate. while these cells can self-renew and differentiate, they can only do so to a limited, they can only do so into closely related cell types.

Example : Hematopoietic Stem Cell (HSC).

HSCs are cells derived from mesoderm that can differentiate into other blood cells. Specifically HSCs are oligopotent stem cells that can differentiate into both myeloid and lymphoid cells.

Unipotent Stem Cells

The unipotent stem cells,which are the least potent and most limited type of stem cell.

Example: Muscle Stem Cells.

While muscle stem cells can self-renew and differentiate, they can only do so into a single cell type. They are uni-directional in their differentiation capacity.

SOURCES OF STEM CELLS[3]

Adult Stem Cells

- Bone marrow stem cells
- Peripheral blood stem cells
- Neuronal stem cells (from olfactory bulb, spinal cord)
- Muscle stem cells
- Liver stem cells
- Pancreatic stem cells
- Renal stem cells
- Corneal limbal stem cells
- Dental pulp

There are 2 main sources of ADULT stem cells

- Bone marrow stem cells (from you or someone else)
- Peripheral blood stem cells(from you or someone else)

Bone Marrow Stem Cells

Bone marrow has a rich supply of stem cells. The bones of the pelvis (hip) contain the most marrow and have large numbers of stem cells in them. For this reason, cells from the pelvic bone are used most often for a bone marrow transplant. When the bone marrow is removed (harvested), the donor gets general anesthesia.

The harvested marrow is filtered, stored in a special solution in bags, and then frozen. When the marrow is to be used, it's given into the vein just like a blood transfusion. The stem cells travel to the recipient's bone marrow. Over time, they engraft or "take" and begin to make blood cells. Signs of the new blood usually can be measured in the patient's blood tests in about 2 to 4 weeks. bone marrow stem cells a good source of CD34+ stem cells (but a poor source of mesenchymal stem cells) bone marrow-derived stem cells provide support for tissue regeneration via revascularization properties and their ability to support mesenchymal stem cells in the body.

Peripheral Blood Stem Cells

The peripheral blood stem cell transplant, the stem cells are taken from blood. A special thin flexible tube (called a catheter) is put into a large vein in the donor

and attached to tubing that carries the blood to a special machine. The machine separates the stem cells from the rest of the blood, which is given back to the donor during the same procedure. This takes several hours, and may need to be repeated for a few days to get enough stem cells. The stem cells are filtered, stored in bags, and frozen until the patient is ready for them.

The stem cells are infused into the vein, much like a blood transfusion. The stem cells travel to the bone marrow, engraft, and then start making new, normal blood cells. The new cells are usually found in the patient's blood a few days sooner.

Umbilical Cord Blood Stem Cells (Newborn)

Umbilical cord blood may be a source of stem cells. A large number of stem cells are normally found in the blood of newborn babies. After birth the blood that is left behind in the placenta and umbilical cord (known as cord blood) can be taken and stored for later use in a stem cell transplant. The cord blood is frozen until needed. A cord blood transplant uses blood that normally is thrown out after a baby is born.

Amniotic Stem Cells

Multipotent stem cells are found in amniotic fluid, Amniotic stem cells can differentiate in cells of adipogenic, osteogenic, myogenic, Endothelial, Hepatic and also Neuronal Lines.

Fetal Stem Cells

The stem cells derived from aborted fetal tissue, their ability to renew themselves is limited & it is more difficult to produce normal tissues from these cells.

Mesenchymal Stem Cells (Mscs)

We are working with stem cells from the patients own body. These are called mesenchymal stem cells (mscs) or adult stem cells.

We use mscs harvested from the patients tummy fat tissue called Adipose derived Mesenchymal Stem Cells (Admscs). The richest source of mesenchymal stem cells or adipose-derived cells are ideally suited for treating systemic autoimmune and inflammatory conditions. They also play a significant role in regenerating injured tissue. Adipose tissue also contains T-regulatory cells which modulate the immune system.

Embryonic Stem Cells

Embryonic stem cells (ES cells) are pluripotent stem cells derived from the inner cell mass of a blastocyst, an early-stage pre implantation embryo. Human embryos reach the blastocyst stage 4–5 days post fertilization, at which time they consist of 50–150 cells. Isolating the embryoblast or inner cell mass (ICM) results in destruction of the blastocyst.

WHAT CAN BE TREATED WITH STEM CELLS?[4]

Medical Uses

- Diabetes Mellitus
- Chronic Obstructive Pulmonary Disease
- Heart Diseases
- Baldness Of Head
- Missing Teeth
- Deafness
- Blindness And Vision Impairment
- Wound Healing
- Infertility
- Crohn's Disease
- HIV/Aids
- Anti Aging Therapy
- Cancer
- Muscular Dystrophy

Orthopedic Conditions

- Osteoarthritis
- Rheumatoid Arthritis
- Cartilage Repair
- Muscle Repair
- Tendon Repair
- Bone Repair
- Joint Repair

Neurological Conditions

- Stroke
- Alzheimer's Disease / Dementia
- Autism
- Brain Injury & Hypoxia
- Multiple Sclerosis
- Parkinson's Disease
- Cerebral Palsy
- Brain & Spinal Cord Injury
- Motor Neurone Disease
- Diabetic Neuropathy

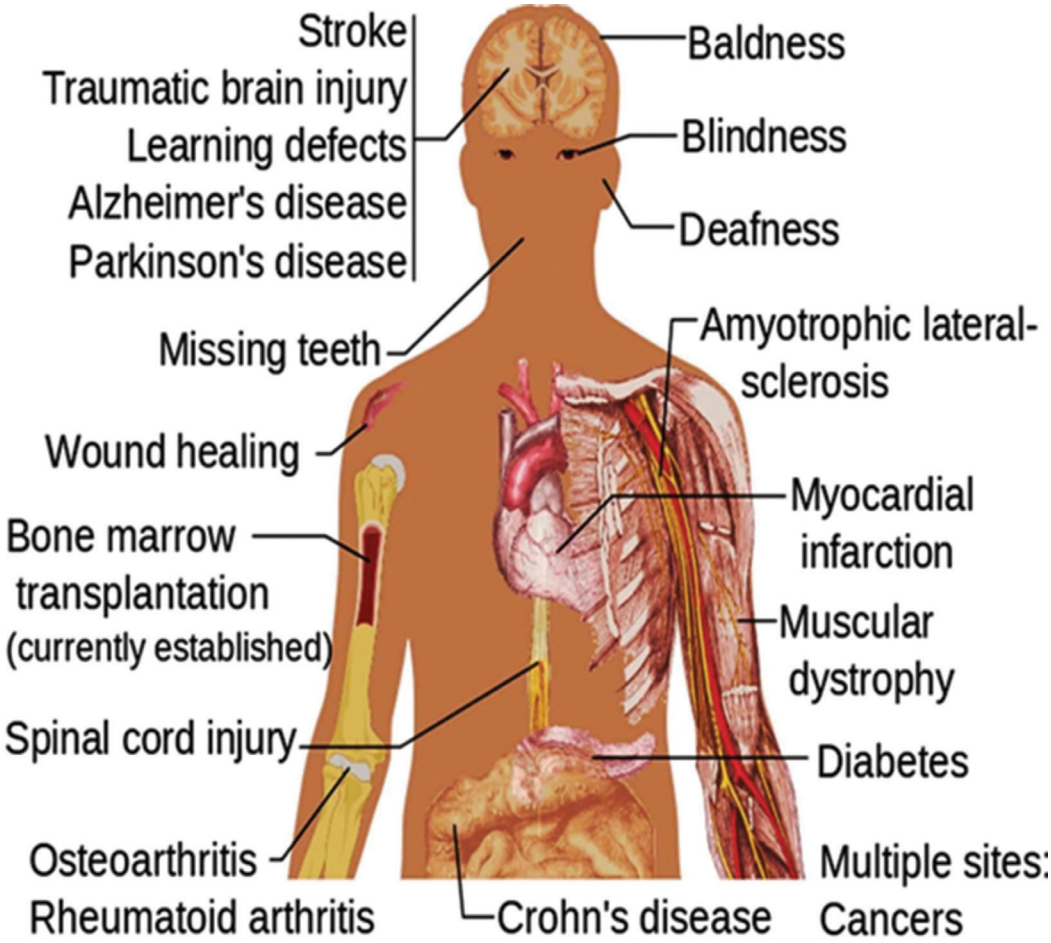

Figure 2: Stem cell treatment for various disease condition

Anti Aging Treatment

Stem cells possess a unique anti–aging effect by regenerating and repairing organs damaged by stress and various toxins we are exposed to in our daily life and improving immune function.

Stem Cells Treatments and procedures to rejuvenate your face, body, organs and increase the feeling of well being.

Figure 3: Stem cell therapy for anti aging treatment

Stem cell treatments results

- General younger appearance
- Reduced skin lines and wrinkles
- Greater firmness and elasticity in the skin;
- Clearer, more even-toned skin with decreased pigmentation.
- Reduced age spots

STEM CELL ETHICS[5]

- Encourage development of sound research and therapy.
- Prevent any misuse of human embryos and fetuses.
- Protect patients from fraudulent treatments in the name of stem cell research

CONCLUSIONS

Stem cells show great promise for regenerative medicine, There is enormous potential in human Stem Cell Research Both adult and embryonic stem cells should be studied. Specific protocols must be developed to enhance production, survival and integration of transplanted cells. Finally clinical trials must be completed to assure safety and efficacy of the stem cell therapy.

Conflict of interest: None

Source of Funding: self or other source: Self

Ethical clearance: Nil

REFERENCES

1. Dr. Ashutosh Tiwari (2014) Define stem cell (Internet) Avilable From DOI No: https:// www. slideshare.net/drashutoshtiwari/stem-cell-therapy-36963348.
2. Cade Hildreth (Ceo) (2016) Types Of Stem Cells (Internet) Avilable From https://www.bioinformant.com/do-you-know-the-5-types-of-stem-cells-by-differentiation-potential/
3. Dr. Ashutosh Tiwari(2014) Sources Of Stem Cells, (Internet) Avilable From DOI No: https:// www.slideshare.net/drashutoshtiwari/stem-cell-therapy-36963348
4. From Wikipedia, The Free Encyclopedia, Medical Uses Of Stem Cells (Internet) Avilable From https://en.wikipedia.org/wiki/Stem-cell_therapy
5. Dr. Ashutosh Tiwari(2014) stem cell ethics (Internet) Avilable From DOI No: https://www.slideshare.net/drashutoshtiwari/stem-cell-therapy-36963348

DOI Number: 10.5958/0974-9357.2017.00109.X

Promoting Participation in Self Care Management among Patients with Diabetes Mellitus: An Application of Peplau's Theory of Interpersonal Relationships

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ABSTRACT

Introduction: Diabetes mellitus is a silent disease and is now recognized as one of the fastest growing threats to public health in almost all countries of the world. Self-care in diabetes has been defined as an evolutionary process of development of knowledge or awareness by learning to survive with the complex nature of the diabetes in a social context.

Aim: To assess the effectiveness of Peplau's Theory of Interpersonal Relationships in promoting participation in self-care management among patients with type II diabetes mellitus.

Materials and Methods: A quantitative evaluative pre-experimental research design was used. 30 diabetic patients who met the inclusion criteria were recruited using non probability purposive sampling technique. The tool was prepared according to Interpersonal Relationships Model. After completing the assessment, inappropriate self-care practices were determined. Intervention – Counseling and an Information Booklet on Self Care Management was given to the samples. Post assessment was done after two weeks.

Results: Findings revealed that before the application of Interpersonal Relationship's Model average knowledge score was 8.3, attitude score was 24.6 and practice score was 24.8. The average fasting blood glucose was 125.4 mg/dl and post prandial blood glucose was 171.4 mg/dl. After the intervention, average knowledge score was 20.8, attitude score was 36.5 and practice score was 50.5. The average fasting blood glucose was 115.8 mg/dl and post prandial blood glucose was 144.3 mg/dl. Significant changes were also observed in the physical nursing assessment performed on the patients. Paired t-test was done for assessing the effect of Interpersonal Relationships Model on participation in self-care management. Average scores increased after the post test and therefore, the null hypothesis was rejected. Peplau's Theory was found to be significantly effective in promoting patient participation in self-care management.

Keywords: *Self-care, Diabetes Mellitus, Patient education, Peplau's Interpersonal Relationships, Communication*

INTRODUCTION

Diabetes is a chronic public health problem, and it is now growing as an epidemic in both developed and developing countries. India leads the world today with the largest number of diabetes in any given country followed by China and USA[1]. There is an increase in the incidence in developing countries following the trend of urbanization and lifestyle changes.[2][3]

Type 1 and Type 2 diabetes are different diseases in cause, in effect and in treatment but the same long-term complications can arise in both types of the condition. Diabetes can seriously compromise every major organ system in the body, causing heart attacks, strokes, nerve damage, kidney failure, blindness, impotence and infections that can lead to amputations. Amputations are 50-80 times higher in people with diabetes than the general population.[4-5]

Patients with diabetes mellitus cannot be cured, but they can control it with regular exercise, diet, and drug. Regular and proper administration of drugs can provide desired outcomes, control diabetes, and prevent its complication.[6] As the treatment options for diabetes tend to be multiple and lifelong, several studies have documented low levels of adherence to treatment among patients with diabetes.[7-9] Apart from regular medications, other beneficial activities can help

in improvement of quality-of-life among patients with diabetes. Such activities include, regular monitoring of blood sugar levels, good problem-solving skills, healthy coping skills and risk-reduction behaviors.

Regular practice of these activities is associated with good outcomes among people with diabetes.[10,11] In developing countries like India, where the resources are limited, and treatment costs for diabetes are constantly increasing,[11-14] the self-care component among patients with diabetes may lead to better economic and therapeutic outcomes.

Nurses play an important role in stimulating or inhibiting patients' participation in self-care. It is necessary for nurse to motivate and engage patients through information. Patients need to find acceptable interpretations of what is happening to them, which is essential for participation. Patients collect information and take action according to their own assessment of credibility and trustworthiness of information given. In order to promote patient participation, nurses should fulfill a leading role in diabetes treatment and care education as existing clinical and observational clinical trials have shown nurses to be capable of providing an effective quality care at lower costs.[15,16] These findings have raised the importance for the investigator to promote patient participation in self-care in a comprehensive approach using the Interpersonal Relationships Model.

Statement:

A study to assess the application of Peplau's Theory of Interpersonal Relationship in promoting participation in self-care management among patients with Diabetes Mellitus hospitalized in the medical wards of a tertiary care center at Pune.

Objectives:

1. To assess the knowledge regarding self-care management among patients diagnosed with Diabetes mellitus
2. To implement Peplau's Theory in promoting patient participation in self-care management.
3. To evaluate the outcome of self-care promoting activities among the patients.
4. To associate the demographic variables with the outcome of self-care promoting activities.

MATERIALS AND METHODS

The study was conducted at a tertiary care center in Pune city on a target sample of patients with type II diabetes mellitus. A quantitative research approach with one group pre-test pot-test design was adopted to assess the application of Peplau's Theory of Interpersonal Relationships in promoting participation in self–care management among patients with diabetes mellitus. Non probability purposive sampling technique was adopted with a total sample size of 30.

Based on Interpersonal Relationships Model, the tool consisted of,

Section I: 10 items of demographic data.

Section II: Nursing assessment consisting of 11 physical parameters with sub-items which could be affected by self-care practices of diabetic patients.

Section III: Likert Scale to assess patient's attitudes towards self-care management with 10 items.

Section IV: 25 Multiple choice questions to assess patient's knowledge towards self-care management.

Section V: Checklist containing 30 questions assessing Diabetes Home Care Practices. The practices include: Blood glucose monitoring, Exercise, Diet, Treatment and Prevention

Information booklet: On "Self Care Management for Diabetic Patients" was given to each sample as a guide for improving their self-care practices.

Sampling Criteria

Inclusion Criteria

1. The patients who have type II diabetes mellitus with age greater than 30 years.
2. Those who were available at the time of data collection.
3. Those who are admitted in the hospital.
4. Patients who are stable.

Exclusion Criteria

1. Critically ill patients.
2. Diabetic patients who are not willing to participate.
3. Patients suffering from major disease conditions except hypertension.

RESULTS

The collected data were analyzed, organized and presented under the following sections:-

Section I: Description of samples based on their personal characteristics.

Table 1: Description of based on their personal characteristics in terms of frequency and percentages (N=30)

DEMOGRAPHIC VARIABLE	FREQ	%
Age		
30-40 Years	7	23.3%
41-50 Years	7	23.3%
51-60 Years	8	26.7%
Above 60 Years	8	26.7%
Gender		
Male	16	53.3%
Female	14	46.7%
Educational qualification		
Primary	9	30.0%
Secondary	6	20.0%
Higher Secondary	12	40.0%
Graduate and Above	3	10.0%
Occupation		
Unemployed	3	10.0%
Unskilled	16	53.3%
Skilled	8	26.7%
Professional	3	10.0%
Family income		
Rs. 5000-10000	5	16.7%
Rs. 10000-25000	17	56.7%
Rs. 25000-50000	6	20.0%
Rs. 50000-100000	2	6.7%
Type of family		
Joint	15	50.0%
Nuclear	12	40.0%
Extended	1	3.3%
Single parent	2	6.7%
How often you go for health checkup		
Every month	3	10.0%
3-6 months	16	53.3%
Once a Year	3	10.0%
When Needed	8	26.7%
Duration of diabetic illness		
0-1 year	4	13.3%
1-2 Years	5	16.7%
2-3 Years	7	23.3%
3-4 Years	4	13.3%
4-5 Years	10	33.3%
Duration of treatment for DM		
0-1 year	5	16.7%
1-2 Years	6	20.0%
2-3 Years	5	16.7%
3-4 Years	4	13.3%
4-5 Years	10	33.3%
Any family history of DM		
Yes	21	70.0%
No	9	30.0%

Table 1 depicts that an equal majority (26.7%) of the study samples were in the age group of 51-60 years and above 60 years. An equal minority (23.3%) had age 31-40 years and 41-50 years. The findings also showed that majority (53.3%) of the samples were males and 46.7% were females. Most (40%) had higher secondary education, 53.3% were unskilled, 56.7% of them had family income Rs.10000-25000, 50% of them had joint family, 53.3% of them go for health check up every 3-6 months, 33.3% of them had diabetes for 4-5 years, 33.3% of them had treatment of DM for 4-5 years and 70% of them had family history of DM.

Section II: This section deals with analysis of data related to effectiveness of Peplau's theory of Interpersonal Relationship in promoting participation in self-care management among patients with diabetes mellitus.

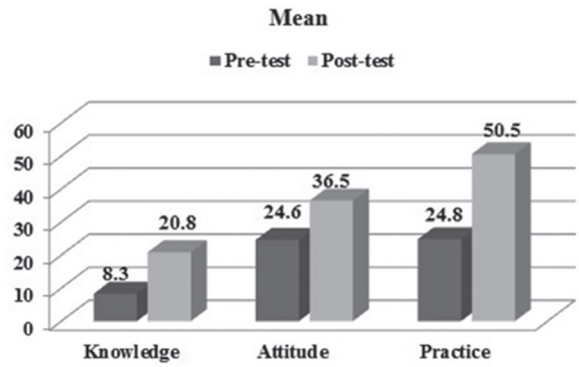

Figure 1: Bar chart showing the mean comparison of Knowledge, attitude and practice regarding self-care management

As seen in fig. 1. Average knowledge score in pre-test was 8.3 which increased to 20.8 in post-test. Average attitude score in pre-test was 24.6 which increased to 36.5 in post-test. Average practice score in pre-test was 24.8 which increased to 50.5 in post-test. The Corresponding p-value for knowledge attitude and practices was small (< 0.05), the null hypothesis was rejected. Peplau's Theory of Interpersonal Relationship was proved to be significantly effective in improving the knowledge attitude and practices of the patients with DM.

Table 2: Effectiveness of Peplau's Theory of Interpersonal Relationship on nursing assessment in self-care management (N=30)

Nursing assessment		Pretest		Posttest	
		Freq	%	Freq	%
Eyes	**Infection**				
	Present	5	16.7%	2	6.7%
	Absent	25	83.3%	28	93.3%
Hands	Dryness	15	50.0%	3	10.0%
	Cracked skin	6	20.0%	2	6.7%
Feet	Heels with cracked skin	18	60.0%	8	26.7%
GI	Dryness of mouth	9	30.0%	2	6.7%
	Nausea	7	23.3%	0	0.0%
Neurologic status	**Mental status**				
	Alert	29	96.7%	30	100.0%
	Oriented	23	76.7%	24	80.0%
	Disoriented	1	3.3%	0	0.0%
	Restless	1	3.3%	0	0.0%
	Confusion	0	0.0%	0	0.0%
Genito-urinary	Recurrent UTI	6	20.0%	0	0.0%

Eyes: In pretest, 16.7% of them had eye infection whereas in posttest 6.7% of them had eye infection.

Hands: In pretest, 50% of them had hands dryness whereas in posttest 10% of them had hands dryness. In pretest, 20% of them had cracked skin whereas in posttest 10% of them had cracked skin.

Feet: In pretest, 60% of them had heels with cracked skin whereas in posttest 26.7% of them had heels with cracked skin.

GI: In pretest, 30% of them had dryness of mouth whereas in posttest 6.7% of them had dryness of mouth. In pretest, 23.3% of them had nausea whereas in posttest none of them had nausea.

Neurologic status: In pretest, 96.7% of them were alert whereas in posttest all of them were alert. In pretest, 76.7% of them were oriented whereas in posttest 80% of them were oriented. In pretest, 3.3% of them were disoriented whereas in posttest none of them was disoriented. In pretest, 3.3% of them were restless whereas in posttest none of them was restless. In pretest and posttest none of them had confusion.

Genitourinary: In pretest 20% of them had recurrent UTI whereas in posttest none of them had recurrent UTI.

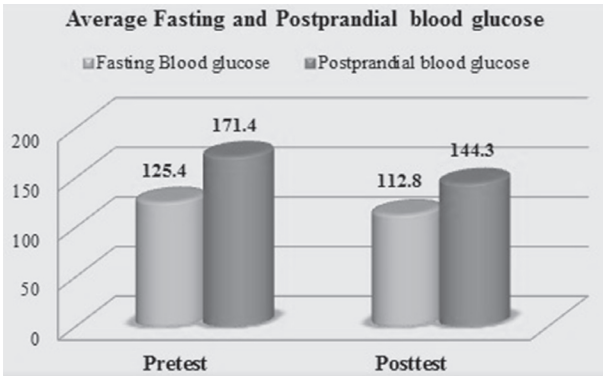

Figure 2: Column chart showing the average fasting and post prandial blood glucose before and after Peplau's Theory of Interpersonal Relationship

Fig. 2. depicts that average fasting blood glucose in pretest was 125.4 which reduced to 112.8 in posttest. Average post-prandial blood glucose in pretest was 171.4 which reduced to 144.3 in posttest. Thus Peplau's Theory of Interpersonal Relationships was found to be effective on fasting and post prandial blood glucose levels.

Section III: Analysis of data related to association of knowledge, attitude and practices in self-care management among patients with Diabetes Mellitus

Fisher's Exact test was used by the researcher to analyze association of data related to knowledge, attitude and practice with the demographic variables. Monthly family income (p-value < 0.05) was found to have significant association with knowledge, type of family and frequency of health checkup (p-value < 0.05) were found to have significant association with attitude and as all the p-values were > 0.05, no demographic variable was found to have significant association with practice in self-care management among patients with Diabetes Mellitus.

DISCUSSION

This study was carried out to assess the effectiveness of Peplau's Theory of Interpersonal Relationships in promoting self-care activities among patients with Diabetes Mellitus. Since the p-value was small (< 0.05) the findings led to the acceptance of the hypothesis that there was a significant improvement in self-care promoting activities among diabetic patients after implementing Peplau's Theory of Interpersonal Relationships.

Similar results have also been reported in other studies which are in line with the results of this research. The results showed that building a good IPR was effective in motivating patients to perform diabetic self-care activities. Peplau described the structure of the nurse-patient relationship as one of building trust and helping persons to begin to identify problems (orientation phase), assisting patients to work on their problems, which may include providing physical care, health teaching, and counseling (working phase), and finally providing closure of their work together (termination phase).[17]

McGuinness et al. applied Peplau's Therapeutic Relationships Model (PTRM) in patients with multiple sclerosis in Canada from making the diagnosis to the admission and full acceptance of the disease by patients and their families[18]. The results of their research showed that the use of PTRM not only helped the healing process but also greatly reduced their psychological distress and concerns. It revealed the ambiguities and deficiency that patients bear in mind regarding their disease and involved the patients in their treatment process. The findings of this study were consistent with the current research. Furthermore, the results of a study conducted by Manzari et al. on burn patients showed that the severity of pain in burn patients was considerably reduced through applying therapeutic communication sessions with Peplau's underlying principles, which indicated the importance of nurse and patient communication.[19]

CONCLUSION

Finally, the results showed that the establishment of a coherent yet simple therapeutic relationship with diabetic patients and the attention paid to their needs greatly motivated them in participating in self-care management. Accordingly, to improve the nurse-patient communication and establish more effective therapeutic communication processes, training courses should be included in in-service education to train and introduce nurses with simple and inexpensive communication skills. This will improve clinical outcomes and will have a positive impact on the treatment and discharge processes and rehabilitation of patients, especially in patients with chronic diseases.

Conflict of Interest: Nil Specific

Source of Funding: Self-finance throughout research.

Ethical Clearance: Ethical Clearance taken from Research and Advisory Committee

REFERENCES

1. Makol N. Diabetes an emerging health problem in India. Health Action 2008 Sep 4-6.
2. World Health Organization, *Global Report on Diabetes*. Geneva, 2016. Accessed 30 August 2016
3. Wild S, Roglic G, Green A, Sicree R, King H (2004). "Global prevalence of diabetes: Estimates for the year 2000 and projections for 2030". *Diabetes Care*. 27 (5): 1047–53. doi:10.2337/diacare.27.5.1047
4. World Health Organization, World Health Day 2016: Diabetes. Available at URL: http://www.searo.who.int/india/mediacentre/events/2016/en/
5. Independent Diabetes Trust. Available at URL: http://www.iddt.org/about/facts
6. Sheeba J, Snehalatha C.Self administration of insulin in diabetes.Nightingales Nursing Times 2011 Mar; 6(12):33-5, 37-8, 53
7. Shobana R, Augustine C, Ramachandran A, Vijay V. Improving psychosocial care: The Indian experience. Diabetes Voice. 2005;50:19–21.
8. Chew LD. The impact of low health literacy on diabetes outcomes. Diabetes Voice. 2004;49:30–2.
9. Kalyango JN, Owino E, Nambuya AP. Non-adherence to diabetes treatment at Mulago Hospital in Uganda: Prevalence and associated factors. Afr Health Sci. 2008;8:67–73. [PMCID: PMC2584325] [PubMed: 19357753]
10. AADE. AADE7 Self-Care Behaviors. Diabetes Educ. 2008;34:445–9. [PubMed: 18535317]
11. Shobhana R, Begum R, Snehalatha C, Vijay V, Ramachandran A. Patients' adherence to diabetes treatment. J Assoc Physicians India. 1999;47:1173–5. [PubMed: 11225220]
12. Kapur A. Economic analysis of diabetes care. Indian J Med Res. 2007;125:473–82. [PubMed: 17496369]
13. Loganathan AC, John KR. Economic burden of diabetes in people living with the disease; a field study. J Diabetol. 2013;3:4.
14. Rayappa PH, Raju KN, Kapur A, Bjork S, Sylvest C, Kumar KM. Economic cost of diabetes care the Bangalore Urban District Diabetes Study. Int J Diabetes Dev Ctries. 1999;19:87–97.
15. Inga E. Larsson,1 Monika J. M. Sahlsten,2 Kerstin Segesten,3 and Kaety A. E. Plos, Patients' Perceptions of Nurses' Behaviour That Influence Patient Participation in Nursing Care: A Critical Incident Study, Nursing Research and Practice Volume 2011 (2011), Article ID 534060
16. Peimani M, Ozra Tabatabaei and Paajouhi M, Nurses' Role in Diabetes Care; A review.

    Available at URL: https://www.researchgate.net/publication/236985435_Nurses%27_Role_in_Diabetes_Care_A_review [accessed Jun 14, 2017].
17. Penckofer S, Byrn M, Mumby P, Ferrans CE, Improving Subject Recruitment, Retention, and Participation in Research through Peplau's Theory of Interpersonal Relations, Nurs Sci Q. 2011 Apr; 24(2): 146–151. Available at URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3687539/
18. McGuinness SD, Peters S. The diagnosis of multiple sclerosis: Peplau's Interpersonal Relations Model in practice. Rehabil Nurs. 1999;24(1):30-3. [PubMed]
19. Manzari Z, Memariyan R, Vanaki Z. [Effect of therapeutic communications program on burn patients, pain]. J Zanjan Univ Med Sci. 2006;54(14):10-6.

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A Comparative Study to Assess Knowledge on Prevention of Sexually Transmitted Diseases among Anganwadi Workers and Asha Workers at Selected Villages of Waghodia Taluka

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ABSTRACT

Background of the study: Sexually transmitted diseases (STDs) are a major health problem affecting mostly young people, not only in developing, but also in developed countries. The main aim of the study is to assess the knowledge on prevention of STD among Anganwadi Workers and Asha Workers and to compare the knowledge between Anganwadi Workers and Asha Workers also find an association between level of knowledge of Anganwadi Workers and Asha Workers with selected socio-demographic variables. A descriptive approach was used to data was collected from 30 Asha workers and 30 Anganwadi workers from selected villages' of waghodia taluka. The study result shows that a total of 25 completed questionnaires were analyzed. Almost all subjects had knowledge regarding on prevention of sexually transmitted disease. In this study,it has been found out that of 30 Anganwadi workers 53.4% Anganwadi workers have Poor knowledge ,46.6% had Average knowledge and no one had level of good knowledge regarding STD. Among 30 Asha workers 17% Asha's had Poor knowledge, 83% had average knowledge and no one had level of good knowledge regarding STDs.It was found that Asha Workers had knowledge score 41.6% and the Anganwadi Workers had knowledge score 32.9% which implies that ASHA workers had more knowledge level regarding prevention of STD than the Anganwadi workers.

Keywords: *STD (Sexually Transmitted Disease), Asha workers and Anganwadi workers knowledge.*

INTRODUCTION

Sexually transmitted infections (STI), also referred to sexually transmitted diseases (STD) and venereal diseases (VD), are infections that are commonly spread by sex, especially vaginal intercourse, anal sex and oral sex. Most STIs initially do not cause symptoms. This results in a greater risk of passing the disease on to others. [Symptoms and signs of disease may include vaginal discharge, penile discharge, ulcers on or around the genitals, and pelvic pain. STIs acquired before or during birth may result in poor outcomes for the baby. Some STIs may cause problems with the ability to get pregnant.[1]

The Term 'Sexually Transmitted Diseases' (abbreviated STDs) refers to a group of illnesses that can be transmitted from one person to another through the sharing of body fluids, including ejaculate ("cum"), vaginal fluids, blood, and other fluids. Apart from sharing similar ways of infecting people, the various diseases compromising the STDs have little in common. They have a variety of different causes (including bacteria and viruses), they produce a variety of symptoms (or absence of symptoms), and they have very different effects on the body when left untreated. At the village level, ASHA cannot function without adequate support from women's committees like self help groups, village health and sanitation committee of the gram panchayat, peripheral health workers especially ANMs and Anganwadi workers. Trainers of ASHA and in-service periodic training would be a major source of support to her.[2]

In India, the prevalence of Sexually Transmitted Diseases is quite high. Among the Sexually Transmitted Diseases, AIDS is a serious concern. In acknowledgement of the need to strengthen the Sexually Transmitted Diseases control program, especially in the context of the recently launched AIDS control program, efforts are being made to extend the National Sexually Transmitted Diseases Control Programmer at the community level through existing private health care services in the country.[3]

Anyone who has had sexual contact can get an Sexually Transmitted Diseases. Men and women of all ages, regions, ethnic backgrounds, and economic levels can get them. One out of four Americans between ages 15 and 55 will catch at least one Sexually Transmitted Diseases. However, Sexually Transmitted Diseases are most common among teens and young adults, with about two-thirds of all Sexually Transmitted Diseases occurring in people under age 25. This is because young people are more likely to be more sexually active and take more risks, and the cervix of a female teenager is more likely to get infected by Chlamydia and gonorrhea.[4]

OBJECTIVES

1. To assess the knowledge on prevention of STD among Anganwadi Workers and Asha Workers at selected villages of waghodia taluka
2. To compare the knowledge level between Anganwadi Workers and Asha Workers.
3. To find association between level of knowledge of Anganwadi Workers and Asha Workers with selected socio-demographic variables.

Hypothesis: There will be significant association of knowledge level of Asha workers and Anganwadi workers with selected demographic variable.

MATERIALS AND METHODS

Research approach: Descriptive approach was used for the study

Research design: Descriptive research design

Dependent Variable: The dependent variable in this study is the level of ASHA and Anganwadi Workers and Comparison between them.

Research variable: The level of knowledge of ASHA and Anganwadi Workers.

Target population: In this study target population is internship students.

Sample: Samples were ASHA workers and Anganwadi workers from selected villages of waghodia taluka

Sample size: The sample for this study comprised of 30 ASHA workers and 30 Anganwadi workers.

Sampling technique: The sampling technique used for this study is Non- probability Purposive sampling technique.

CRITERIA FOR SELECTION OF SAMPLE

Inclusive criteria:

1. The ASHA workers and Anganwadi workers of Waghodia, Jarod, Rustampura, Asoj villages of Waghodia taluka data collection.
2. The ASHA workers and Anganwadi workers who know to read /write in Gujarati.

Data collection instrument: Data collection tool is the instrument i. e. the written device that the researcher uses to collect the knowledge data. In this study the structured knowledge questionnaire is used.

Development of the tool: The purpose of the study is to assess the knowledge of ASHA workers and Anganwadi workers regarding sexually transmitted disease (STDs), to compare the knowledge between Anganwadi and ASHA workers on prevention of STDs, a knowledge questionnaire was found appropriate for collection of data. The tool was developed after review of literature on relevant topics and its consultation with subject experts.

DESCRIPTION OF THE TOOL

Part I: Demographic Perform: The characteristics include age, religion, marital status, which PHC, Years of experience,STD training attended, source of information regarding STDs. And participants were requested to place a tick mark in the appropriate box provided against each statement.

Part –II: Structured Knowledge Questionnaire. It consists of 25 structured knowledge questionnaires regarding sexually transmitted disease (STDs).All the item were multiple choice questions, which has three alternative responses. A score value of (1) was allotted to each response. The total knowledge score was 25.

The knowledge level has been arbitrarily divided into three categories based on knowledge questionnaire and accordingly scores were allotted.

- Poor knowledge– 0-8
- Average knowledge– 9-16
- Good knowledge– 17-25

RESULT

Socio Demographic Data

Findings of the study revealed that The age groups of the ASHA workers 10% of them were in between 20-25 years, 53.30% of them were in between 26-30 year 33.3% of them were in between 31-35 years and 3.3% were in above 35 years.The age groups of the Anganwadi workers were 3.4% of them were in between 20-25 years, 50% of them were in between 26-30 years, 23.3% of them were in between 31-35 years and 23.3% were in above 35 years. Regarding religion.96.4% of ASHA workers are belonged to Hindu religion and 3.4% ASHA workers of belonged to Muslim religion. Regarding religion.90% of Anganwadi workers are belonged to Hindu religion and 10% Anganwadi workers of belonged to Muslim religion. Regarding marital status of Anganwadi workers shows that 93.4% were married and 6.6% were unmarried and ASHA workers were 63.3% married and were 3.4%unmarried. Regarding PHC about 46.6% of Aanganwadi workers from Waghodia , 16.7% from Jarod and 36.7% from Rustampura. Regarding PHC about 60% of ASHA workers from Waghodia, 16.7%from Jarod ,16.7% from Rustarnpura and 16.7%from Asoj. 50% of Anganwadi workers had experience between 0-5 years and 46.6% of them were had experience between 6-10 years and 3.4% of Aganwadi workers had experience between 11-15 years. 43.3% of ASHA workers had experience between 0-5 years and 56.7% of them were having experience between 6-10 years. About 33.3% of All participants had attended STDs training and 66.7% had not attended STDs training of Anganawadi workers. About 43.3% of All participants had attended STDs training and 56.7° had not attended STDs training of ASHA workers. ASHA Workers Regarding Sources of Information 16.7% of participants obtained information from newspaper, 40% from TV and 43.3% from Training. Anganwadi workers Regarding Sources of Information 33.3% of participants obtained information from newspaper, 16.7% from TV and 50% from Training.

KNOWLEDGE ANALYSIS

Revealed that out of 30 ASHA workers 17% ASHA had Poor knowledge 83% had Average knowledge and no one had level of good knowledge regarding STDs.Revealed that out of 30 Anganwadi workers 56% Anganwadi workers had Poor knowledge, 44% had Average and no one had level of good knowledge regarding STDs.

Association between level of knowledge score and socio-demographic variables:

The obtained overall t value 0.6115 is less than the table value 1.67at 0.05 level of significance. Hence the obtained t value is not significant. Hence research hypothesis is rejected. There is a significant difference between the knowledge scores of ASHA workers and Anganwadi worker It was found that ASHA Workers had 41.6% knowledge score and Anganwadi Workers 32.9% knowledge score. Association between ASHA workers level of knowledge and demographic variables like Age, Religion, marital status, years of experience, STDs training attended and Source of information with the use of chi square test. , was found to be not significant at the 0.05. Whereas the PHC were they belonged to was found to be significant at the 0.05 level of significance. Association between Anganwadi workers level of knowledge and demographic variables like Age, Religion , marital status, and Source of information with the use of chi square test. , was found to be not significant at the 0.05. Whereas the PHC, years of experience , STDs training attended was found to be significant at the 0.05 level of significance.

Comparision of knowledge scores of asha workers and anganwadi workers

Sr no.	Knowledge aspects	Scores	Asha workers knowledge scores			Anganwadi workers knowledge scores			Mean difference	T-value	Inference
			Mean	Mean %	SD	Mean	Mean %	SD			
1	Introduction	6	2.43	40	1.08	2.03	33.88	1.04	0.4	2.027289	S
2	Cause	4	1.4	35	0.66	1.1	27.5	0.97	0.3	2.489046	S
3	Sigh/ Symptoms Of STD	2	0.83	41.66	0.58	0.76	38.33	0.5	0.07	0.660921	NS
4	Prevention of STD	9	4.06	45.18	1.39	2.96	32.96	1.51	1.1	4332985	S
5	Treatment of STID	3	1.43	47.7	0.80	1.166	38.8	1.03	0.264	1.806842	S
6	Complication of STID	1	0.2	20	12	0.23	23.33	1.30	0.03	-0.01271	NS
	Overall Knowledge	25	10.4	41.6	1.117	8.23	32.92	1.047	2.17	7.5874	S

The above table 1 the obtained overall t value 0.6115 is less than the table value 1.67at 0.05 level of not significance. Hence the obtained t value is not significant. Hence research hypothesis is rejected. There is a significant difference between the knowledge scores of Asha workers and Anganwadi worker It was found that Asha Workers had knowledge score 41.6% and Anganwadi Workers knowledge score 32.9%.

CONCLUSION

In the present study 30 Asha workers and 30 Anganwadi workers was selected using non purposive sampling technique. The research approach adopted in the present study is an descriptive research approach with a view to assess knowledge of Asha workers and Anganwadi workers regarding STDs. using and percentage scores The data was interpreted by suitable and appropriate statistical method. It was found that Asha Workers had knowledge score 41.6% and Anganwadi Workers knowledge score was 32.9% which implies that ASHA workers had more knowledge level regarding prevention of STD than the Anganwadi workers.

Conflict of Interest: Nil

Source of Funding: Self

Ethical Clearance: Yes, ethical clearance is obtained

REFERENCE

1. Sexually transmitted infections (STIs) Fact sheet *November 2013*- 14 page no 110.
2. Florence N Samkange-Zeeb, Hajo Zeeb. Awareness and knowledge of sexually transmitted diseases (STDs) among school-going adolescents in Europe: a systematic review of published literature Published online 2011 Sep 25. doi: 10.1186/1471-2458-11-727
3. Bingham JS, Kumar B, Gupta S. Historical aspects of sexually transmitted infections. 1 St ed. Elsevier: New Delhi; 2005. 5-17.
4. Sharrna VK, Khandpur S. Epidemiology of Sexually Transmitted Diseases. Viva Books Private Limited: New Delhi; 2003; 1-41.
5. M Bharati , L Bharati, a study on knowledge of hiv/aids among adolescents of higher secondary school in jajarkot district of Nepal. Nepalese Army Institute of Health Sciences, College of Nursing, Kathmandu, Nepal. Journal of Chitwan Medical College 2014; 4(9): 43-45.
6. Devinder mohan thappa, sowmya kaimal. Sexually transmitted infections in india: current status. Department of dermatology and sexually transmitted diseases, jawaharlal institute of postgraduate medical education and research

(jipmer), pondicherry india. 2007; vol ; 52; 78-82.

7. Pankaj kumar, prasad pore, usha patil, i-iiv/ aids related kap among high- school students of municipal corporation school in pune. - an interventional study. Department of community medi cine,bharati vidyapeeth deemed university medical college, pune . March 2012.
8. Thakor hg, kosambiya jk, desai vk. Knowledge and practices related to sexually transmitted infections and hiv among sex workers in an urban area of gujarat, india. Department of community medicine, government medical college, surat. 2010 jan; 108(1): 12-7.
9. Jibin.k effectiveness of teaching programme on prevention and control of aid s.nightingale nursing times. September 2009; vol 5 : no 6 : 24
10. D t doreto etal, "knowledge on sexually transmitted diseases imong low income adolescents in ribeirao preto, sao paulo state, brazil , article cad saude publica, october 2007, 23,251-256.

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Effectiveness of Educational Intervention on Glycemic control among patients with Type 2 Diabetes Mellitus

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ABSTRACT

Introduction: Diabetes mellitus one of the most prevalent chronic diseases in the world is a challenge for all nations. The objective of the present study was to assess the effectiveness of educational intervention on glycemic control among patients with type 2 diabetes mellitus.

Methods: The present study was a quasi-experimental pretest posttest design with experimental group and control group. The study was conducted in the diabetic clinic of a tertiary care center in Kerala. The sample consisted of 140 patients with type 2 diabetes mellitus, after 6 months of diagnosis, 70 patients in the experimental group and 70 in the control group selected consecutively. The experimental group participated in the educational intervention programme and control group received only the standard treatment. Effectiveness of the educational intervention programme was assessed measuring the change in the Hba1c level. Data were analyzed using appropriate statistical methods.

Result: The difference between the experimental group and control group with respect to changes in HbA1c from baseline to the follow up was determined using repeated ANOVA test and was found to be statistically significant ($F= 133.37$, $p< 0.001$).

Conclusion: The incidence of type 2 diabetes mellitus is becoming a global challenge. With the emergence of non-communicable diseases health care professionals should make use of opportunities in educating people with diabetes mellitus to maintain good glycemic control of their diabetes.

Keywords*: Educational intervention, Glycemic control, type 2 diabetes mellitus.*

INTRODUCTION

Diabetes is a chronic disease with severe complication and high mortality rate. It is the single most important metabolic disease that can affect nearly every organ system in the body. Because diabetes mellitus is progressive with no noticeable symptoms or only mild symptoms for years, awareness of the disease is low and risk are high especially those with type 2 diabetes mellitus[1].

India leads the world with largest number of diabetes patients earning the dubious destination of being termed the "diabetes capital of the world". The number of people with diabetes in India is currently is around 66.84 million and is expected to rise 100 million by 2030.[1]

Diabetes mellitus is a chronic illness that requires continuing medical care and patient self-management education and support to prevent acute complications and reduce the risk of long term complications. Patient education is one of the most responsibilities of nurses.[2]

Diabetes management education is a critical element of care for all people with diabetes and is necessary in order to improve patients' outcome and quality of life of patients.[3]

The challenge for diabetes care in India include improved education to alert the population about the risk factors for diabetes, training of patients to manage their disease more effectively and development of more structured care delivery and management. Patient education and empowerment are key steps in assuring good glycemic control. However the facility and adequate manpower for these are not available even in major cities. Priority must be given for creating awareness among public and for patient education. Patient education programmes are generally cheap and cost effective.[4]

Diabetes educational strategies are of great importance because the adoption of healthy behavoiurs will produce optimum glycemic control for diabetes mellitus, which in turn will help to manage or prevent subsequent acute and long term complications of the disease and improve self-efficacy and patient outcomes.[5]

A study conducted in urban areas of South India showed that majority of patients had low level of knowledge regarding different aspects of diabetes. Most of the study participants believed in self-care in diabetes. 55.6% of the study participants believed that they can control their disease. They suggested that there is a need for structured programme to improve knowledge and behaviors of patients.[6]

The improvement of metabolic control in adults with type 2 diabetes achieved through the application of a planned education. Because education provides the patient with knowledge and skills that allows the patient to carry out self-care on a routine basis that is vital for achieving good metabolic control.[7]

The aim of the present study was to assess the effectiveness of educational intervention on glycemic control among patients with type 2 diabetes mellitus.

MATERIALS AND METHODS

Research Approach: quantitative research approach

Research design: Quasi experimental pretest posttest design with experimental and control group

Setting: Diabetic clinic of a multi-specialty tertiary care center in Thiruvananthapuram, Kerala.

Sample & sampling technique: 140 patients with type 2 diabetes mellitus after 6 months of diagnosis, 70 in the control group and 70 in the experimental group. The samples were recruited consecutively.

Data collection process

Socio demographic and clinical data were collected using an interview schedule. The glycemic level of patients was determined by HbA1c level.

Before starting the study ethical clearance from the institutional ethics committee and permission from the hospital authorities were obtained. Written consent was obtained from each patient. The researcher developed the educational intervention programme on self-management of diabetes. The researcher personally interviewed each subject with the interview schedule. To avoid contamination recruitment was done to the control group first, then to the experimental group. During the baseline data collection, socio demographic and clinical data were collected. HbA1c was determined using ion exchange method.

The patients in the experimental group were exposed to educational intervention consisted of one teaching session of 60- 90 minutes, limited to 2-3 patients/ group or individually. They were regularly followed up on monthly basis. Reinforcement of educational intervention was given on repeated monthly visit to the experimental group. The investigator spoke with each patient at every visit, adequate time was given for each patient to express questions and /or answers.

The patient in the control group received only standard treatment available in the diabetic clinic. They were not exposed to the educational intervention.

The primary outcome measure was HbA1c. HbA1c was measured at baseline and at follow up visits after 3 and 6 months.

RESULTS

Out of the 140 patients studied, the mean age of patients was 56 ± 11.6 years. 50% each of patients were males and females. 93.6% patients were married. Regarding the level of education, 48.6% had intermediate education and 10.7% had only primary education. 57.1% of patients had family history of diabetes mellitus.

The mean duration of diabetes was 10.86 ± 8.49 years and 10.85 ± 8.10 years in the experimental group and control group respectively. Majority of patients in the experimental group (97.145) and the control group (98.57%) were on modern medicine as treatment. 82.85% of patients in the experimental group and 80% in the control group had good compliance to treatment . 31.43% of patients in the experimental group and 27.14% of patients in the control group were doing regular exercise. The mean FBS value of patients in the experimental group was 138.90 ± 56.39 mg% and that of patient's in the control group was 155.63 ± 55.87 mg%. The mean baseline Hba1c value of patients in the experimental group was 8.23 ± 1.60% and that of patients in the control group was 8.30 ± 1.43%.

Table 1: The socio demographic and clinical data of patients

Mean Age (years)	**56 ± 11.6**
Gender	
Male	70 (50%)
Female	70(50%)
Education	
Primary Education	15 (10.7%)
Intermediate education	68(48.6%)
Family history of diabetes mellitus	80(57.1%)
Mean duration of diabetes (years)	
Experimental group	10.86± 8.49
Control group	10.85±8.10
Mean FBS (mg%)	
Experimental group	138.90 ±56.39
Control group	155.63 ± 55.87
Mean HbA1c (%)	
Experimental group	8.23 ± 1.60
Control group	8.30 ± 1.43

Table 2: Within group comparison of HbA1c level in the experimental group and control group

	Base line Mean ± SD	**After 3 months Mean ± SD**	**After 6 months Mean ± SD**	**F**	**p**
Experimental group	8.23 ± 1.60	7.06 ± 1.31	7.10 ± 1.29	156.30	0.001
Control group	8.30 ± 1.43	8.59 ± 1.44	8.69 ± 1.37	14.84	0.001

There was a mean reduction in Hba1c level from 8.23 ± 1.60 % to 7.10 ± 1.29 % (from baseline to 6 months) in the experimental group which was statistically significant (F= 156.30, p= 0.001). Within the control group there was a mean increase on HbA1c from 38.30 ± 1.43% to 8.69 ± 1.37 %

(from baseline to 6 months. This was also found to be statistically significant (F= 14.84, P= 0.001).

Table 3: Comparison of HbA1c level between experimental group and control group – Repeated measure ANOVA

Source variation	**Mean Square**	**F**	**p**
Between group	25.78	133.37	<0.001
Within group	7.81	40.36	<0.001

The repeated measure ANOVA table showed that between groups variability was very high compared to within group variability. The within group variability accounts for only small fraction of change in HbA1c when the two groups are compared. F test is highly significant with a p value of < 0.001 and concluded that educational intervention was effective in controlling the glycemic level in patients with type 2 diabetes mellitus.

DISCUSSION

The present study revealed that there was a mean reduction in HbA1c from 8.23 ± 1.60 % to7.10 ± 1.29% (from base line to 6 months) in the experimental group, which was statistically significant. The effect of educational intervention in the pretest and 2 follow up scores related to HbA1c level was assessed using repeated measures ANOVA and found to be statistically highly significant. The result showed that educational intervention had significant effect on glycemic level in patients with type 2 diabetes mellitus. Consistent finding were reported by previous studies.[8, 9, 10, 11]

CONCLUSION

Diabetes has been referred as an emerging epidemic health problem. Poorly controlled diabetes mellitus affects the end organs and resulting in complications and have tremendous health costs of individual and at a large to the society. As a long term disease, diabetes

mellitus need life time care and management. Diabetes requires a combination of non-pharmacological and pharmacological measures for better glycemic control. Patients' adherence to life style modification plays an important role in diabetes management. Therefore diabetes self-management education plays an important role in the clinical management of diabetes mellitus.

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Conflict of interest: Nil

Source of funding: Self

Ethical clearance: Ethical clearance for conducting the study was obtained from the institutional Ethics Committee, Govt. medical College, Thiruvananthapuram. Written informed consent was obtained from the study participants.

REFERENCES

1. International Diabetes Federation (2014). Diabetes atlas update 6th edition. International Diabetes federation, Brussels.
2. American Diabetes Association (2014). Standards of Medical Care for patients with Diabetes mellitus. Diabetes Care; 36: A11-66.
3. Funnel M, Brown T, Child B, Hass l, Jensen, B, Weiss MA. National standards for diabetes self-management education. Diabetes care 2010; 33: 589- 598.
4. Ramachandran A, Ramachandran S, Snehaletha C, Murugesan N, Vishwanathan,V. Increasing expenditure on health care incurred by diabetes patients in a developing country. Diabetes care 2007; 30(2):252-256.
5. Al- Khawaldeha O, Al- Hassanab M, froelicher E. Self- efficacy, self-management and glycemic control in adults with type 2 diabetes mellitus. Journal of diabetes and its complications 2012; 26: 10-16.
6. Hawal NP, Shivaswamy MS, Kambar S, Patil S, Hiremath MB. Knowledge, attitude and behaviour regarding self- care practices among type 2 diabetes mellitus patients residing in urban area of South India. International Multidisciplinary Research journal 2012; 2(1): 31-35.
7. Luzio S, Pichelmeier W, Tovar c, Eberi S, Latzsch G, Fallbohmer E, et al,. Results of pilot study of DIADEM- A comprehensive disease management programme for type 2 diabetes. Diabetes Research and Clinical Practice 2007; 76(3): 410-417.
8. Strajtenberger MT, Strjtenberger VT, Seberija M. standardized Educational {Programme in persons with type 2 diabetes on OHA: Effects on glycemic control and BMI.Diabetologia Croatica 2011; 40(2): 35-45.
9. Persell SD, Keating NL, Laandrum MB, Landan BE, Ayanian JZ, Borbas et al,. Relationship of diabetes specific knowledge to self-management outcomes. Prev Med 2004; 39(4): 746- 752.
10. Selea A, Dumanovic MS, Pesic M, Suluburic D, Pejkovic DS, Cvijovic G, et al, .The effects of education with printed material on glycemic control in patients with diabetes type 2 treated with different therapeutic regimens. Vojnosanit 2011; 68(8): 676-683.
11. Scain SF, Friedman R, gross JL. A structured Educational Programme Improves Metabolic control in patients with type 2 diabetes. The Diabetes Educator 2007; 35(4): 603-611.

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Women's Natural Transition; Nature Supports in Climacteric Life

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ABSTRACT

Menopause marks the time in a woman's life when menstruation stops. According to the World Health Organization, it takes 12 months of amenorrhea to confirm that menopause has set in. In 1990, about 25 million women worldwide reached menopause; this number is expected to double by the late 2020s. About 130 million Indian women are expected to live beyond menopause by 2015. With the advent of modern non pharmacological measures, there is a general increase in life expectancy and quality of life, thus many women are likely to live for more than two decades beyond menopause, in an estrogen deficient state. Some of the menopausal symptoms experienced by these women can be severe enough to affect the normal lifestyle. Thus more attention is needed towards peri- and post-menopausal symptoms. Estrogen replacement therapy is the most effective treatment; however, it has its own limitations. The present need is to explore new options for the management of menopausal symptoms. There is increasing evidence suggesting that even the short-term practice of non pharmacological measures can decrease both psychological and physiological menopausal symptoms. Studies conclude that age old non pharmacological measures like Yoga, Mind fullness Based stress reduction and physical measures is fairly effective in managing menopausal symptoms.

Keywords: *Menopause and non pharmacological measures.*

INTRODUCTION

The menopause is a natural phenomenon which occurs in all women and usually begins when women are in their mid-to-late 40s. The final menstrual period (FMP) usually occurs between the ages of 45 and 55[1]. The average age of the menopause in women is 51 years. During the menopausal transition stage the finite number of ovarian follicles becomes depleted. As a result, oestrogen and progesterone hormone levels fall, and luteinising hormone (LH) and follicle-stimulating hormone (FSH) increase in response. Menstruation becomes erratic and eventually stops and there are a number of secondary effects described as 'menopausal symptoms' will develop[2]. The deficiency of these hormones elicits various somatic, vasomotor, sexual, and psychological symptoms that impair the overall quality of life. For the management of menopause-associated symptoms, non hormonal therapy is an important consideration when hormone therapy is not an option due to medical contraindications or a woman's personal choice. Non hormonal therapies include lifestyle changes, mind-body techniques, dietary management and supplements with flax seed and omega 3 fatty acid, prescription therapies, yoga therapy and others. There are many advantages of non hormonal therapy for the management of menopausal symptoms like less costs, time and effort involved and no side effects[3].

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Classification of Non pharmacological measures for Menopausal symptom management

I. Physical measures

II. Psychological measures

III. Family and social relationship

I. Physical measures

(a) Maintain body temperature

(b) Maintain healthy diet & weight

(c) Identifying & avoiding triggers of hot flashes

(a) Maintain body temperature: Night sweats are aggravating and inconvenient symptom of menopause that can result in low body temperature. There are different ways to stabilize hormones and keep body temperature at a normal level[4].

- Take a cold shower before bed.
- Sleep with the windows open.
- Have a fan nearby to keep cool air circulating.
- Wear loose clothing to bed.

(b) Maintain healthy diet & weight: Coping with menopausal symptoms can be helped by eating a balanced nutritious diet, exercise and relaxation. Women, who try to make their lifestyle as healthy appear to have less severity of menopause symptoms. Women who are overweight may have more hot flushes than women of a healthy weight. Women who exercise can reduce the frequency and severity of hot flushes[4].

Food and drink:

- Reduce intake of Caffeine and Spicy foods
- Eat foods with phytoestrogens such as soy, flax seeds, whole grains (e.g. oats, barley, brown rice) and legumes (e.g. peas, beans, lentils)
- Get enough calcium and Vitamin D rich foods (e.g. dairy products and fish like, sardine, mackerel)
- Avoid consumption of carbonated drinks and stop smoking

Maintain healthy weight

A healthy lifestyle during the menopause transition helps in maintaining a healthy weight. Once women reach menopause the estrogen levels drop, and they are at risk for osteoporosis and cardiovascular diseases.

As women age and move through menopause, the fat that used to sit around the hips moves up towards the abdominal area. This shift in weight to the abdominal area increases the risk of cardiovascular disease

In order to lose stomach fat tweaks to your diet and starting an exercise program.

(c) Identifying & avoiding triggers of hot flashes: Hot flashes may be precipitated by hot weather, smoking, caffeine, spicy foods, alcohol, tight clothing, heat and stress. Identifying and avoiding these triggers can help in lessening both the number and severity of hot flashes[4].

I. Psychological measures

(a) Yoga

(b) Exercise

(c) Cognitive behavior therapy

(d) Mindfulness based stress reduction

(e) Paced respiration

(f) Self relaxation training

(g) Clinical hypnosis

(a) Yoga: The most commonly performed Yoga practices are postures (asana), controlled breathing (pranayama), and meditation (dhyana).A regular yoga practice can improvise menopausal experience of women, so that the menopausal women can comfortably confront and manage the trouble arising out of menopause. These are the few proven yoga postures meant to heal menopausal problems[5].

Asanas: Sitting:- Vajrasana, Sputavajrasana, Poorvatanasana, Janusirsasana, Upvistakonasana, Badhakonasana, Vakrasanaashvinimudra.

Standing: Tadasana, Trikonasana, Parshvakonasana.

Lying on the back: Pavanamuktasana, Padottanasana

Lying on the stomach: Bhujangasana, Shalabhaasana, Dhanurasana, Paryankasana.

Pranayama: Anuloma- viloma, Surya bhedana, Chandrabhedana, Sheetali and Bhramari.

(b) Exercise: The exercise program for postmenopausal women should include the aerobic exercise, strength exercise and balance exercise; it should aim for 30 minutes per day. Menopause brings a lot of changes in menopausal women and most of them lead to troublesome symptoms namely somatic, vasomotor, sexual and psychological symptoms. All these short and medium-term effects influence the quality of life of these women adversely[5].

Benefits of exercise are:

1. Exercise can help create a calorie deficit and minimize midlife weight gain.

2. Walking or running can help to offset the decline of bone mineral density and prevent osteoporosis.
3. Engage in house hold activities. It is considered as a physical activity. Regular and adequate levels of physical activity is required among midlife women to maintain weight
4. It also reduces low back pain.
5. It is proven to help reduce stress and improve the mood.
6. It may help to reduce hot flashes.

(c) Cognitive behavior therapy: Cognitive behavior therapy is a brief, non-medical approach that can be helpful for a range of health problems including anxiety and stress, depressed mood, hot flushes and night sweats, sleep problems and fatigue. CBT focuses on the development of personal coping strategies that target solving current problems and changing unhelpful patterns in cognitions (e.g. thoughts, beliefs, and attitudes), behaviors, and emotional regulation[5].

(d) Mindfulness based stress reduction: Mindfulness-based stress reduction was first put into practice at the Stress Reduction Clinic at the University of Massachusetts Medical School. Mindfulness is taught in 8 week group sessions lasting approximately 2 hours, and daily practices may include meditation, awareness of breathing, body scan and mindful yoga[5].

(e) Paced respiration: Paced respiration is slow, deep and diaphragmatic breathing. By comparison, normal breathing, take about 12 to 14 breaths a minute where as paced breathing take only 5 to 7 breaths a minute. The goal of paced breathing is to reduce the stress chemicals produced from brain and facilitate a relaxation response[5].

(f) Self relaxation training: Self relaxation technique triggers responses of the parasympathetic nervous system, which controls body processes such as digestion and sleep. If the menopausal women deprived of sleep will usually experience fatigue and drowsiness and be inactive throughout the day. Lack of sleep can cause accidents; affect judgment, relationships, physical health and mental health thus make the women feel disconnected.

The self relaxation technique includes, rhythmic breathing, deep breathing, visualized breathing, progressive muscle relaxation, relax to music and mental imagery relaxation5.

(g) Clinical hypnosis: The clinical hypnosis intervention consists of hypnotic inductions and instruction in the practice of self-hypnosis towards the therapeutic goals of the reduction of hot flashes and improved sleep. The intervention is for duration of 12 weeks; weekly five sessions for duration of 45-minute. The intervention includes mental imagery for coolness, safe place imagery and relaxation5.

III. Family and social relationship: It's important to learn and understand about menopause, so that the family and society can support the menopausal women through it.

Tips for family members and society to help menopausal women with her transition.

- Be prepared to learn about the menopause
- Active listening
- Find enjoyable activities
- Share the feelings
- Stay optimistic
- Offer support and understanding
- Adapt expectations

Social network and women club organization play an important role in the psycho social domain of menopausal women. Many women's clubs focused on the welfare of the women during their midlife period. These clubs allows women to share their quality of life and help them to realize that their sharing thoughts are important to understand and offer support in their transition period.

CONCLUSION

Thus, government could concentrate on providing health services through AYUSH project among women in post reproductive age group besides women in the reproductive age. The AYUSH can take up the initiative in the rural and urban communities in the form of practice of yoga or exercise among women focused organizations. This can be achieved by incorporating components related to specific health needs of postmenopausal women in the national health programs.

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REFERENCES

1. Gold E.Bet al; Factors related to age at natural menopause: longitudinal analyses from SWAN. Am J Epidemiol. 2013 Jul 1 178(1):70-83.
2. Kaunitz AM, Manson JE; Management of Menopausal Symptoms. Obstet Gynecol. 2015 Oct 126(4):859-76.
3. National Institutes of Health. National Institutes of Health State-of the-Science Conference statement: management of menopause-related symptoms. Ann Intern Med 2005;142(12 pt 1):1003–13
4. Barnabei VM et al. Menopausal symptoms in older women and the effects of treatment with hormone therapy. Obstet Gynecol. 2002; 100(6):1209–1218.
5. Nelson HD et al. Non-hormonal therapies for menopausal symptoms: Systematic review and meta-analysis. Journal of the American Medical Association. 2006; 295 (17):2057–2071.
6. Brockie, J. (2013). Managing menopausal symptoms: Spouse support. Nursing Standard, 28(12), 48-53.

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Nursing Issues in Leading and Managing Change

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ABSTRACT

Change occurs over time, often fluctuating between intervals of change then a time of settling and stability. Change management entails thoughtful planning and sensitive implementation, and above all, consultation with, and involvement of, the people affected by the changes. If you force change on people normally problems arise. Change must be realistic, achievable and measurable. These aspects are especially relevant to managing personal change. Leading and managing are two essential expectations of all professional nurses. Today's rapidly changing healthcare system to lead and manage successfully, nurses must possess not only knowledge and skills but also a caring and compassionate attitude.[1]

Keywords: *Change, professional nurse, change management*

INTRODUCTION

A good nurse leader is someone who can inspire others to work together in pursuit of a common goal, such as enhanced patient care. An effective leader has a distinctive set of personal qualities: integrity, courage, initiative and an ability to handle stress. In today's quickly evolving environment of healthcare, it's time to develop creative leadership, i.e., the capacity to think and act beyond the boundaries limiting your potential and avoid professional derailment or faltering career moves[2]

ASSUMPTION REGARDING CHANGE

- Change represents loss. Even if the change is positive, there is a loss of stability. The leader of change must be sensitive to the loss experienced by others.
- Those who actively participate in change process feel accountable for the outcome.
- Timing is important in change. With each successive change in a series of changes, individual's psychological adjustment to the change occurs more slowly. And for this reason the leader of change must avoid initiating too many changes at once.[3]

COMMON NURSING ISSUES IN LEADING AND MANAGING CHANGE

The world of health care continues to change rapidly. Today's health care system presents challenges to administrators and clinicians that have few or no precedents; there is no indication that it will be any different in the future. Some years ago, vaill (1989) coined the term "permanent white water" to describe the phenomenon of change as a constant rather than discontinuous state. The nature of our current and future environment raises an important question about the factors that are influencing the changes. It is perhaps not surprising that the answer are to be found in multiple areas e.g technological , social, political, economic as well as scientific

1. **Economical and political issues:** The term doing more with less has become familiar to clinicians and administrators alike, both at "ground level" as well as at the top. The challenges associated with delivering quality patient care within a environment of rising consumer expectations and increasingly constrained human and financial resources are everyday realities for many nurses. Continued downsizing of health care facilities services increased acuity and decreasing length of stay

   Political issues which are enthusiastically and passionate debated and discussed in nursing profession are mandatory nurse to patient ratio identifying and maintaining the appropriate number and mix of nursing staff is critical to the delivery of quality patient care. According to ANA **Federal regulation has been in place for some time, 42 Code of Federal Regulations (42CFR 482.23(b)** which requires hospitals certified to participate in Medicare to

"have **adequate** numbers of licensed registered nurses, licensed practical (vocational) nurses, and other personnel to provide nursing care to all patients as needed".

2. **Social and demographic issues:** Social changes both within and outside of the nursing profession, is present contemporary challenges for nursing leadership and management. For example, Alderman (2001) draws attention to changes in worldwide demographics that are likely to lead to increased cultural diversity at the point of care delivery and the challenges that confront increasingly pluralistic societies. Other social changes of significance for nurse leaders and mangers include the ageing of population and worldwide, employment/unemployment patterns and trends, increasing risks to health and well being, coupled with the apparent reluctance of many to embrace preventive measures/lifestyles and strong views, while at the same time not wanting to pay more for health care (Friedman 1999) and the increasing tendency towards litigation to resolve issues/conflicts.[4]

3. **Professional issues :** With in nursing there are several contemporary issues that present significant challenges for nursing leadership and management. Foremost among these are the changing demographics of the nursing workforce and the **shortage of nursing staff** being experienced in many areas of clinical practice. In India international migration has been considered as one of the reasons behind shortages of nursing workforce. Nurses shortages occur at every level of the healthcare system In 2010, a World Health Organization report revealed that India alone needed 2.4 million more nurses. In India, some of the issues related to nurse retention still remain to be tackled – job insecurity for the contractual staff, low pay in both the government and private sectors, lack of a conducive work environment and infrastructure facilities[4]

(a) Impacts on healthcare: Nursing shortages have been linked to the following effects:

- Increased nurses patient workloads
- Increased risk for error, thereby compromising patient safety
- Increased risk of spreading infection to patients and staffs
- Increased risk for occupational injury
- Increase in nursing turnover, thereby leading to greater costs for the employer and the health care system
- Increase in nurses' perception of unsafe working conditions, contributing to increased shortage and hindering local or national recruitment efforts

(b) Inadequate knowledge in management and administration: Many nurse administrator have advanced understanding of management but lacks the conceptualization that why the person need nursing and understandings of an organization needs, to participate in the process of design and delivery of nursing for patient population

(c) Other common issues are:

- Desire to remain in comfort zone: Those who become increasingly attached to a familiar way of doing things (comfort zone) often view change as unwelcome disruption.5
- Inadequate access to information: lack of information, inability to read and understand the available resources.
- Lack of shared vision: lack of widespread involvement, input and ownership of change will cripple a change effort.
- Lack of adequate planning: involving individuals in planning gives a sense of control and decreases their resistance to change.
- Lack of trust: trust in the change agent and ability of self to bring about change is necessary.
- Resistance to change: co-operation and involvement of the whole team will only bring effective and lasting changes.
- Poor timing or inadequate time planned: poor timing and lack of planning can fail to being desired change.
- Fear that power, relationship or control will be lost. Every change represents potential for loss to someone.
- Amount of personal energy needed for change may be great. Some time change is desired but people are not willing to do what is necessary to effect the change.

4. **Technological and environmental issues:** Patient care technology has become increasingly complex; transforming the way nursing care is conceptualized and delivered. Before extensive application of technology, nurses relied heavily on their senses of sight, touch, smell, and hearing to monitor patient status and to detect changes. Over time, the nurses' unaided senses were replaced with technology designed to detect physical changes in patient conditions Consider the case of pulse oximetry.[6]

SEVEN EMERGING TECHNOLOGIES THAT ARE CHANGING THE PRACTICE OF NURSING:[7]

Seven Emerging Technologies that Are Changing the Practice of Nursing		
Technology	**Benefits**	**Challenges**
Genetics and Genomics	The majority of disease risk, health conditions and the therapies used to treat those conditions have a genetic and/or genomic element influenced by environmental, lifestyle, and other factors therefore impacting the entire nursing profession (Calzone et. al, 2010).	Many nurses currently in practice know little about genetics and genomics and lack the competence needed to effectively counsel and teach patients in this regard.
Less Invasive and More Accurate Tools for Diagnostics and Treatment	Non-invasive and minimally invasive tools for diagnostics and treatment generally result in lower patient risk and cost.	The rate at which noninvasive and minimally invasive tools are being introduced makes ongoing competency regarding their use a challenge for nurses.
3-D Printing	Bioprinters, using a "bio-ink" made of living cell mixtures can build a 3D structure of cells, layer by layer, to form human tissue and eventually human organs for replacement (Thompson, 2012).	Healthcare is just beginning to explore the limits of this technology. There are limits to the materials which can be used for printing and materials science is a laggard in 3D printing (Nusca, 2012).
Robotics	Robotics can provide improved diagnostic abilities; a less invasive and more comfortable experience for the patient; and the ability to do smaller and more precise interventions (Newell, n.d). In addition, robots can be used as adjunct care providers for some physical and mental health care provision.	More research is needed on comparative effectiveness of robotics and human care providers. Many healthcare providers have expressed concern about the lack of emotion in robots, suggesting that this is the element that will never replace human caregivers.
Biometrics	Biometrics increases the security of confidential healthcare information and eliminates the costs of managing lost passwords.	The measurement of biometric markers may occur in less than ideal situations in healthcare settings and in a rapidly changing workforce, cost may become an issue.
Electronic Healthcare Records (EHR)	Healthcare providers have access to critical patient information from multiple providers, literally 24 hours a day, 7 days a week, allowing for better coordinated care.	Implementation costs, getting computers to talk to each other and debates about who "owns" the data in the EHR continue to challenge its required implementation.
Computerized Physician/Provider Order; Entry (CPOE) and Clinical Decision Support	CPOE and clinical decision support fundamentally change the ordering process resulting in lower costs, reduced medical errors, and more interventions based on evidence and best practices.	The introduction of CPOE and clinical decision support requires providers to alter their practice. Resistance is common due to the time spent on order entry. Implementation and training costs are often significant.

ROLE OF NURSE LEADER (MANAGER) IN LEADING & MANAGING CHANGE:

- Implement a comprehensive and coordinated change management program: Discover, develop, detect.
- Identify ―change agents‖ and engage people at all levels in the organization.
- Ensure the message comes from the top, and executives and line managers are ―walking the talk.
- Make change visible with new tools and/or environment.
- Ensure clear, concise, and compelling communication.
- Integrate change goals with day-to-day activities, e.g., recruiting, performance management, and budgeting.
- Address short-term performance while setting high expectations about long-term performance.
- Help management avoid attempts to short circuit the change management process.
- Foster change in people‘s attitudes first, then focus on change in processes, then change in the formal structure.
- Manage both supporters and champions, as well opponents and possible detractors.
- Accept that all people go through the same steps – some faster, some slower – and it is not possible to skip steps.
- Build a safe environment that enables people to express feelings, acknowledge fears, and use support systems.
- Acknowledge and celebrate successes regularly and publicly

Ethical clearance : Not Required

Source of funding : Self

Conflict of Interest : Nil

REFERENCE

1. Daly John, Sandra Speedy, Debra Jackson. Leadership & nursing contemporary prespective.2nd edition. Elesevier publication; 2015.
2. Gail Powell-Cope. Audrey L. Nelson. Emily S. Patterson. Patient Safety and Quality: An Evidence-Based Handbook for Nurses. 2008
3. Kelly, P. Nursing Leadership and Management. (2nd ed.). Clifton Park, NY: Delmar Learning: 2008.
4. Huber, D. Leadership and Nursing Care Management, (2nd ed.), Philadelphia: W.B. Saunders. 2000
5. Nagelkerk, J. Study Guide for Huber Leadership and Nursing Care Management, (2nd ed.), Philadelphia: W.B. Saunders. 2000
6. Sullivan, E. J. Becoming influential: A guide for nurses. Upper Saddle River, NJ: Pearson. 2004
7. Huston Carol .The Impact of Emerging Technology on Nursing Care: Warp Speed Ahead. *The Online Journal of Issues in Nursing .2013.* 18(2)
8. https://www.scribd.com/document/103833895/Planning-for-Chan-and-Innavation.
9. https://www.scribd.com/document/344792336/Claire-Report
10. http://intranet.tdmu.edu.ua/data/kafedra/internal/distance/lectures_stud/English/1%20course/Leadership%20in%20Nursing/5%20People%20and%20the%20Process%20of%20Change.htm
11. www.leadershipnow.com/leadingblog/personal_development/

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Knowledge on Hypertension and Perception Related to Lifestyle Behaviour Modification of Hypertensive Clients

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ABSTRACT

The study was conducted among 153 hypertensive clients of Sulk-Gandaki municipality, ward no- 4 & 8, Dulegauda-Tanahun District, Nepal, in the month of April 2017. The aim of the study was to assess knowledge level about risk factors, symptoms and complications of hypertension and level of perceptions related to lifestyle behavior modifications of hypertensive clients. A descriptive cross sectional study with a non probability purposive sampling technique was used for the study. The data were collected from door to door survey with interview technique using questionnaires. The study was done with the prior formal permission from the executive officer Sulka Gandaki municipality, Dulegauda -Tanahun District and verbal consent from the subjects. Result of the study revealed that 64.1% of the hypertensive patient had good knowledge regarding risk factor of hypertension, 59.5% of the hypertensive patients had average knowledge regarding the symptoms and complications of hypertension, majority 96.1% of the hypertensive patient had high level of perception regarding lifestyle behavior modification.

Keywords: *knowledge, hypertension, perception, lifestyle, hypertensive client*

INTRODUCTION

Blood pressure is regarded as normal, if the level is 120/80 mmHg or less. Blood pressure between 120/80 mmHg and 138/89 mmHg is regarded as pre-hypertension, which denotes increased risk of hypertension, whereas a blood pressure of 140/90 mmHg and above is considered to be hypertension.[1]

Hypertension or high blood pressure is a chronic medical condition in which the blood pressure in the arteries is elevated, requiring the heart to work harder than normal to circulate blood through the blood vessels.[2]

Hypertension is a major worldwide public health problem because of its high prevalence with vascular disease, premature death, stroke, renal diseases and retinopathy. It has been described as the "silent killer" because initially the disease presents no apparent symptoms, and hence an individual can have hypertension without realizing it.[3]

BACKGROUND

Overall, approximately 20% of the world's adults are estimated to have hypertension, when hypertension is defined as BP in excess of 140/90 mm Hg. The prevalence dramatically increases in patients older than 60 years: In many countries, 50% of individuals in this age group have hypertension. Worldwide, approximately 1 billion people have hypertension, contributing to more than 7.1 million deaths per year.

Although hypertension can be modified, it is a leading risk factor for mortality, and there are a large proportion of elderly patients whose blood pressure remains uncontrolled. Knowledge and life style modifications of patients play an important role in the controlling of hypertension and preventing their long-term complications. Lifestyle behavior modifications are the first line of intervention for all patients with hypertension, in combination with pharmacological treatment which is also important for the disease management to control its progress and prevent short and long term complications.[5]

Lifestyle modifications were including; weight control, limitation of alcohol consumption, increased physical activity, increased fruit and vegetable consumption, reduced total fat and saturated fat intake, and smoking cessation[6]

Also dietary approach to control hypertension, (DASH) eating plan which are effectively lower hypertension should be encouraged for these patients. It emphasizes fruits, vegetables, and low-fat dairy products and reduces in fat and cholesterol, other dietary factors, such as a greater intake of protein or monounsaturated fatty acids, may also reduce blood pressure.[7]

An evaluative study was conducted among 32 male and 18 female patients in the Jaswanth Rai super specialty hospital, Meerut from Feb to April 2009. The basic aim of this study is to assess the awareness and knowledge of patients about hypertension. The study revealed that most of the patients were educated, 40% of patients were suffering from hypertension for more than 2 years. 70% of patients know about their disease. 76% of the patients know about high blood pressure can cause kidney problems and more than 90% of the patients aware about high blood pressure can cause heart attack and stroke. Also they were having the awareness of eating less salt to reduce the blood pressure. The results of the study point out that without education, patients' level of knowledge about the cause, treatment and application of the hypertensive drugs was inadequate.[8]

A cross sectional study conducted among 101 male and female hypertensive patients which was newly diagnosed for hypertension who were attending Medical outpatient Clinic at Tanta University Hospital and Primary Health Care Unites in Sebrbay and Mehalla RohVillages at Tanta City. The aim of the study was to assess level of knowledge and perceptions related to hypertension, lifestyle behavior modifications and challenges that facing hypertensive patient. This study was revealed that general knowledge about hypertension was inadequate. Patients lacked of understanding some points of risk factors, manifestation and lifestyle modifications of hypertension. Also there was high poor level of perceptions about lifestyle behaviors modifications among hypertensive patients.[9]

NEED OF THE STUDY

Study findings showed hypertensive clients are less awareness and illiteracy, low income and distance away from health units which increase difficulties to change their lifestyle behaviors. So the researcher felt to conduct the present study to assess hypertensive clients' knowledge level, determine their perceptions regarding lifestyle behavior modifications. The finding of the study results can be used in the future as a tool for further prevention from risk factors of hypertension and its complications and to improve community knowledge about lifestyle behaviour modifications, so that to reduce the mortality and morbidity rate of hypertension in the country.

METHODOLOGY

The study was conducted among 153 hypertensive clients of Dulegauda, Nepal, in the month of April 2017.

Research approach: A quantitative research approach was used for the study.

Research design: Descriptive cross sectional design was adopted for the present study.

Variables:

Independent variables: Duration of hypertension diagnosed, age, sex, religion, marital status, education, monthly family income, family history of any disease, smoking, alcoholism, experienced of stress.

Dependent variables: Knowledge on risk factor, symptoms, complications of hypertension and Perception regarding life style behavior modification of hypertension.

Setting of the study: Sulk-Gandaki municipality, ward no- 4 & 8, Dulegauda -Tanahun District, Nepal.

Sampling criteria: Hypertensive clients' age of 20 years and above, who have been diagnosed as hypertensive since 6 months and before.

Population: A Sample of male & female hypertensive clients residing at ward number 4 and 8, Sulka Gandaki Municipality, Dulegauda-Tanahun, Nepal.

Sample size: A total of 153 hypertensive clients.

Sampling technique: Non probability purposive sampling technique

Inclusion criteria:

- Hypertensive clients who were residing at ward no. 4 & 8 of Dulegauda-Tanahun, Nepal

- Hypertensive clients age of 20 years and above and have been diagnosed at least 6 months before the data collection time.
- Hypertensive clients who were present and willing to participate during the data collection time

DATA COLLECTION METHOD

The data was collected with prior formal permission from the executive officer Sulka Gandaki municipality, Dulegauda-Tanahun and verbal consent from the participants. A door to door survey was done with interview technique using questionnaires after validation and pretesting.

Tools used for the study

The tools used for the study was developed by the researcher after reviewing the related literatures.

Tool I: Socio-demographic proforma consisted of 11 items

Tool II: Knowledge questionnaire on hypertension.

There were total 25 questions which consist of two parts. The first part consists of 10 items on risk factors and second part consists of 15 items on symptoms and complication of hypertension. The total score of the 1st part was 10 and graded as Poor level (1-3), average level (4-6) and good level (7-10). The total score for 2nd part was 15 & categorized as poor (1-5), average (6-10) and good (11-15). For every right answer score given as 1 and for wrong answer score was 0.

Tool III: Perception questionnaire regarding lifestyle behaviour modification of hypertension.

This tool was consisted of 25 statements using a three points liker scale values ranging from agree (3), uncertain (2) and disagree (1). The score was categorized as low level perception (1-25), moderate level perception (26-50) and high level of perception (51-75).

Statistical analysis

The collected data were organized, tabulated and statistically analyzed using statistical package for social studies (SPSS) version 16. Descriptive measures such as frequency, percentage, and inferential measures such as chi- square and correlation coefficient were used in the study.

RESULT

Section 1: Frequency and Percentage of hypertensive clients on the basis of their sample characteristics

The present study findings showed that out of the total hypertensive patient 63.4% were diagnosed as Hypertension since 1-5 years, 37.9% were age group of 36-55 years, 54.2% were male, 94.8% were Hindu, 91.5% were married, 51% were illiterate, 51.6% had family history of hypertension, 62.7% were alcoholism, 55.6% had experienced stress, 55.6% were non-smoker and 50.3% had NRs.10,000-30,000 had monthly family income.

Section 2: Knowledge of hypertensive clients' on risk factor, symptoms and complications of hypertension

Table 1: Level of knowledge on risk factor of hypertension
n = 153

Knowledge	Frequency (f)	Percentage (%)
Poor	5	3.3
Average	50	32.7
Good	98	64.1

Table 2: Level of knowledge on symptoms and complications of hypertension
n = 153

Knowledge	Frequency (f)	Percentage (%)
Poor	23	15.0
Average	91	59.5
Good	39	25.5

Section 3: Perception level of hypertensive clients' regarding life style behavior modification

Distribution of frequency and percentage of perception regarding lifestyle modification

Out of the total population 92.2%, 90.2%, 81%, 79.7% and 78.4% had agreed on the statements such as restriction of salt, eating healthy diets, consuming vegetables daily, exercise, consuming low fat diet, and medication effectively can control their hypertension. About 64.7% believed regular taking of low fat diet(fish,

low fat dairy products) from their meal and consuming fruits could to control HTN, 64.1% thought reducing intake of salt to 1.5 gm per day can to control HTN, 63.4% believed eating fruits most days can control HTN, 60.8% felt a high fiber diet and low fat diet can control HTN effectively, 66.7% believed increase daily activity at home and at work can control HTN, 60.8% believed that reduced stress in their work can control HTN, 58.2% thought away from cigarette smoker is good to control BP, 54.2% believed avoid smoking and alcohol intake will reduce HTN and 54.9% thought it is easy for them to modify their diet.

Level of perception of hypertensive patients' regarding life style behavior modification

Table 3: Level of perception of hypertensive patients' regarding life style behaviour modification n = 153

Perception	Frequency (f)	Percentage (%)
Low (1-25)	-------	-------
Moderate(26-50)	6	3.9
High(51-75)	147	96.1

Section 4: Association between the knowledge levels with selected demographic variables

To test the significance of association between the knowledge level and selected demographic variables, Chi Square was computed. There was significant association between the knowledge level with selected variables such as education (χ^2= 6.317; df=2) but there was no significant association between knowledge level with age (χ^2= 5.455; df=6) and income (χ^2= 8.370; df=6).

Section 5: Correlation between knowledge level on risk factors & perception regarding lifestyle behavior modification of hypertension.

To test the significance Pearson co-efficient co-relation was computed. There was significant relationship between the knowledge level and perception level (r = 0.233 at P < 0.05).

DISCUSSION

The present study findings showed that out of the total hypertensive patient 63.4% were diagnosed as Hypertension since 1-5 years, 37.9% were age group of 36-55 years, 54.2% were male, 94.8% were Hindu, 91.5% were married, 51% were illiterate, 51.6% had family history of hypertension, 62.7% were alcoholism, 55.6% had experienced stress, 55.6% were not smoking and 50.3% had 10,000-30,000(NRs) had monthly family income. Regarding knowledge level 64.1% had good knowledge on risk factors of hypertension and 59.5% had average knowledge on symptoms and complications of hypertension. Regarding perception level 96.1% had high level of perception related to lifestyle behavior modification. Out of the total 92.2%, 90.2%, 81%, 79.7% and 78.4% had agreed on the statements such as restriction of salt, eating healthy diets, consuming vegetables daily, exercise, consuming low fat diet, and medication effectively can control their hypertension. About 64.7% believe regular taking of low fat diet(fish, low fat dairy products) from their meal and consuming fruits could help them to control HTN, 64.1% thought reducing intake of salt to 1.5 gm per day can to control HTN, 63.4% believed eating fruits most days can control HTN, 60.8% felt a high fiber diet and low fat diet can control HTN effectively, 66.7% believed increase daily activity at home and at work can control HTN, 60.8% believed that reduced stress in their work can control HTN, 58.2% thought going away from cigarette smoker is good to control BP, 54.2% believed avoid smoking and alcohol intake will reduce HTN and 54.9% thought it is easy for them to modify their diet. There was significant association between the knowledge level with selected variables such as education (χ^2= 6.317; df=2) but there was no significant association between knowledge level with age (χ^2= 5.455; df=6) and income (χ^2= 8.370; df=6). There was significant relationship between the knowledge level on risk factors and perception level regarding life style modification of hypertension (r = 0.233 at P < 0.05).

A study conducted among 260 hypertensive patients attending the cardiac clinics of the University of Nigeria Teaching Hospital, Enugu, Nigeria to evaluate the perception, knowledge and practices of Nigerian hypertensive patients regarding hypertension and lifestyle modification measures. The study results showed that 50% of the patients thought that hypertension was caused by stress. Most of the hypertensive patients have low perceptions regarding lifestyle behavior modification which is contradictory with the present study finding.[10]

The present study findings are consistent with a study conducted to evaluate the awareness of lifestyle interventions among100 hypertensive patients, attending medicine OPD aged >18 years in Sikkim Manipal Institute of Medical Sciences in general medicine OPD in Jan. 2017, which revealed that among(n=100), 60 patients had adequate knowledge (>50%) about hypertension and the study results revealed that more than half of the patients had fair to good knowledge about lifestyle behavior modifications.[11]

A study conducted to assess the level of knowledge regarding hypertension among 40 hypertensive elderly patient at Tamilnadu, India. The study revealed that Among 40 patients 24 (60%) patients had adequate knowledge which is contrast to the present study finding. The study showed high poor level of knowledge about hypertension and perceptions toward lifestyle modification which contradicts the present study finding. There was significant relationship between dietary habits, knowledge of hypertension and showed highly significant at P<0.001. There was no significant relationship between education and knowledge which contradicts the present study finding whereas there was no significant association between age, sex, and monthly income with knowledge of hypertension with statistical significant at P<0.05 which is similar with the present study finding.[12]

CONCLUSION

The present study concluded that hypertensive patients had good knowledge on risk factors of hypertension but they had average knowledge about symptoms and complications of hypertension. The study revealed that there was high level of perception related to lifestyle behavior modification which is needed in the control of hypertension. It is also showed that as the education level increases the knowledge level increased. The study further showed that as the knowledge level increases the perception level regarding life style behavior modification also increased. It can be suggested to give education to improve more knowledge on hypertension.

Ethical clearance: To conduct the study prior permission was taken from the executive officer Sulka-Gandaki municipality Dulegauda-Tanuhun, Nepal. Informed consent from the participants was taken prior to the data collection.

Conflict of interest: Nil

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REFERENCE

1. Akpa MR, Emem-Chioma PC, Odia OJ. Current epidemiology of hypertension in Port Harcourt Metropolis, Rivers State, Nigeria. [Last accessed on 2013 May 10]. Available from: http: www.ajol.info/index.php/phmedj/article/view/38922.
2. Kumar P, Clark M. 7th ed. Spain: Saunders Elsevier; 2009. Clinical Medicine; pp. 798–805.
3. Bani IA. Prevalence and related risk factors of essential hypertension in Jazan region, Saudi Arabia. Sudanese J Public Health. 2011;6:45–50.
4. The world Health Report 2002-Reducing Risks, promoting Healthy Life. Geneva Switzerland: World Health Organization 2002. Available from: http://www.who.int/whr/2002/en/In_blank.
5. Mersal F. A. and Mersal N. A., Effect of Evidence Based Lifestyle Guidelines on Self Efficacy of Patients with Hypertension, International J. of Current Microbiology and Applied Science, (2015); 4(3): p244-263.
6. Ugorji J.U., Developing a Lifestyle Modification Toolkit to Prevent and Manage Hypertension Among African American Women, Walden University, Partial Fulfillment of the Requirements for the Degree of Doctor of Nursing Practice, College of Health Sciences, 2014, p 2.
7. Okwuonu C.G., Emmanuel C.I. and Ojimadu N.E., Perception and Practice of Lifestyle Modification in the Management of Hypertension among Hypertensive in South-East Nigeria, International Journal of Medicine and Biomedical Research, 2014; 3 (2) p 122.
8. Vikneswari A et al. Knowledge Assessment of Hypertensive Patient From An Urban Clinic . Asian Journal of Research in Biological and Pharmaceutical Sciences. 2014; 2(4): 183 - 188. Available from: www.ajrbps.com
9. Seham A. Abd El-Hay, Samira E. El Mezayen. Knowledge and Perceptions Related to Hypertension, Lifestyle Behavior Modifications and Challenges That Facing Hypertensive Patients. IOSR Journal of Nursing and Health Science (IOSR-JNHS) e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 4, Issue 6 Ver. I (Nov. - Dec. 2015), PP 15-26. Available from www.iosrjournals.org.

10. So I., Aniebue P.N. and Aniebue U.U., Knowledge, Perceptions and Practices of Lifestyle-Modification Measures among Adult Hypertensive in Nigeria, National Institute of Health, 2010;104 (1): pp55-60. Available from: https://www.ncbi.nlm.nih.gov/pubmed/19733378

11. Dhakal M., Dhakal O.P. A hospital based cross sectional study to evaluate awareness of lifestyle interventions among hypertensive patients in Sikkim (North-Eastern State of India) International Journal of Medical Research and Review. April, 2017; Vol 5(4): P (421-428). Available from: www.ijmrr.in.

12. P.T.Rakkini, S.N. Junior, M. C. Sahaya. Assessment of Level of Knowledge related to Hypertension in Hypertensive Elderly Patients at Tertiary Care Hospital. Paripex - Indian Journal of Research. April 2017; Vol: 6(4) P (575-576).

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A Quantitative Research Design to Assess the Preparedness of Omani Novice Nurse Educators to Assume the Role of Faculty

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ABSTRACT

Background: The nature of the nurse educators' role has also been changed over the past decade and has been characterized by complexity and diverse circumstances. Novice educators undergo significant challenges in the transition to academia.[18] This suggests the need to facilitate their transition and development in nursing education, and also ensure that they are adequately prepared for the faculty.[14] The aim of this to assess Omani novice nurse educator's preparedness to assume the role of faculty.

Method: A quantitative, descriptive design. A purposive sample of Omani novice nurse educators was recruited. The data was collected by a Nursing Education Competence Inventory (NECI) tool.

Results: Five competencies indicating novice nurse educators' preparedness: facilitate learning, use evaluation strategies, participate in curriculum design, function as change agent, and develop an educator role (p=0.001). From those competencies, facilitating learning competency and assessment and evaluation competency found to be the significant predictors for the preparedness (p=0.001). The results suggested that 53% of the Omani novice nurse educators demonstrated nurse educators' competencies.

Conclusion: Only 53% of the Omani novice nurse educators showed preparedness and demonstrated nurse educators' competencies. This suggests that appropriate plans to improve novice educators' development must be developed to ease their socialization within nursing education.

Keywords: *Novice, nurse educators, preparedness, and competencies.*

INTRODUCTION

Nurse educators play multiple roles in nursing education. Their role has been conceptualized as multidimensional, requiring the faculty to bridge the academic community and service sector as well as assuring quality education to prepare the nursing workforce for a diverse, ever-changing health care environment.[20] Therefore, recruiting competent nurse educators and facilitating their development is essential in nursing education to meet the demand of the changes in the world today National League of Nursing.[14] Nurse educator competency has been defined as an overview of the behavioral repertoire or the tasks nursing education is expected to undertake to prepare nursing students to meet the changing health needs of society. NLN (2005) requires all educators to be proficient in eight core competencies. These are: (a) facilitate learning, (b) facilitate learner development and socialization, (c) use assessment and evaluation strategies, (d) participate in curriculum design and evaluation of program outcomes, (e) function as a change agent and leader, (f) pursue continuous quality improvement in their educator role, (g) engage in scholarship, and (h) function within the educational environment.[15] It was suggested that socializing nurse educators into their roles helps facilitate their development and better prepares them for their expected roles.[11,24] Socialization is the process of adapting to and becoming a part of an organizational culture.[1] It is a process whereby a person gains the knowledge, skills, and identity that are characteristic of a profession.[1] Teachers' socialization is characterized by the acquisition of knowledge, skills, values, and norms of both the teaching profession and the local school community.[25] Successful socialization results in more competent teachers who are committed to remaining on the job.[2,10,25]

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BACKGROUND

Nursing education in Oman has been through tremendous changes over the past 10 years. Recently, there has been a move towards Omanization, which is recruiting Omani nurse educators to nursing institutes. There are only a few Omani teachers who are prepared for the faculty/teaching role. Novice Omani nurse educators are experienced nurses with BSN qualification, recruited from hospitals and with the interest to pursue their future careers as nurse educators. However, the transition from nurses to nurse educators occurs without adequate preparation. The literature suggests that transition from clinical setting to academia requires socialization[5, 8, 21] ; it is characterized by being a complex process in which a person acquires the knowledge, skills, values, norms in the nursing education culture. [12, 13, 23] Hence this study is deemed important to assess to which extent Omani novice nurse educators are adequately prepared to assume the role of faculty. Very little research has been done on essential competencies that are inherently necessary to perform the multiple roles of a nursing faculty member.

Theoretical Framework

The process of role transition can be supported from Benner's nursing model of novice to expert (1982). The novice to expert conceptual framework was originally derived from the Dreyfus model of skill acquisition. This model describes the various phases one must advance through in order to become an expert at a task. [6, 17] Benner (1982) described the five stages one must advance through in order to become an expert nurse clinician. The five phases consist of novice, advanced beginner, competent, proficient, and expert.

Literature Review

A study was conducted by Duphily[5] to explore the experience of novice nurse educators in their transition to the new role. The design utilized for this study was a qualitative phenomenological approach. The findings of this study revealed that the transition to the new role created high levels of stress among novice educators. It was hampered by unrealistically high expectations, which led to uncertainty and anxiety. In the same study, the novice nurse educators described themselves at the time of transition as feeling "ill prepared" as well as feeling a sense of isolation, frustration, and difficulty in adapting to the new role. Similarly, in a longitudinal study, Prosser[19] argued that those moving from clinical practice into education are insufficiently aware of the nature of the new role; hence, the transition is more of a shock than an expected outcome. In this study, the novice educators reported difficult transition and had only limited support in their new role, which consequently resulted in a sense of isolation. Diekelmann[3] reached the same conclusions and the findings revealed that new nurse educators reported limited support and also had feelings of isolation and alienation on entering the new role. This showed that they lacked clarity in their new role. Young and Diekelmann[26] found similar results and that new nurse lecturers felt inadequately prepared in most of the teaching practices. Interestingly, Rouse[22] found that, novice nurse educators had a sense of anxiety and lack of clarity about what is expected from them as new lecturers. A participant in the study mentioned her desire for specific objectives or identified competencies to be achieved within a given time span to be reassured that she undertook her role satisfactorily. In Nesse's[16] study it was asserted that "clinical expertise alone is not a qualification for being an educator." Therefore, finding a successful strategy to equip the novice nurse educator with the required competencies throughout the journey of transition is vital. The difficulty of transition has been clearly highlighted in many models or theories of transition. Hill and MacGregor[8] showed that any transition process has three main phases: challenge, confusion, and adaptation. The first phase is characterized by feelings of anxiety and loss of the previous role. The second phase involves internal confusion and conflict and a sense of lost identity. The third phase occurs when the individual is able to reassess his or her skills and interests to develop the new role. The literature indicated that novice nurse educators were ill prepared for their role, and the transition as they experienced was more of a shock than an expected outcome.[4,6,7,11,13].

MATERIAL & METHODS

The purpose of this quantitative study with a descriptive design is 1) to assess novice nurse educators' preparedness to assume the role of faculty, 2) to determine the predictors of nurse educator competencies within nursing education in Oman.

Sample Selection

The sample selected for this study comprises novice nurse educators working in MOH Nursing Institutes who meet the inclusion criteria: Omani novice nurse educators with a BSN degree and two years (or less) of experience.

Inclusion and Exclusion Criteria for the Sample

The sample included in the study comprises Omani nurse educators who hold a BSN degree and have two years (or less) of experience. Non-Omani nurse educators were excluded from the study.

Sampling Method

This study targeted all novice nurse educators employed at MOH Nursing Institutes. A purposive sampling technique was used to select the participants. The total number of all novice nurse educators who met the inclusion criteria as reported by the deans from all nursing institutes was 28. However, only 17 participants returned the questionnaire, yielding a 60% response rate.

Data Collection

The data were collected by a Nursing Education Competence Inventory (NECI) questionnaire that had 34 elements. This questionnaire was developed by NLN and used widely in different research studies. The tool reliability showed Cronbach's alpha (r= 0.93). Some elements of the questionnaire were modified to suit the setting. A pilot study for the questionnaire was done on three novice educators who were excluded later from the study.

Data Management & Data Analysis

Data were entered by two researchers to maintain accuracy during data entry. SPSS package version 22 was used to analyze the data. Initially, a descriptive analysis was done to ensure that adequate numbers or responses were available for each variable that would be included in the analysis and to check for the missing values as well. A statistical value $P \leq 0.5$ was considered significant. Parametric statistics were applied due to the assumption of normal distribution in the sample. Pearson correlation coefficient was done to estimate the correlations between the competencies. Logistic linear regression was run to identify the predictors for the nurse educators' preparedness. Percentages were calculated to identify the extent of nurse preparedness to assume the faculty role. The assumptions of normality, linearity, homogeneity of variance, and independence of error have all been checked.

FINDINGS

A total of 17 participants filled in the questionnaire: 14 were female and 3 were male. The data were not normally distributed as assessed by the histogram, boxplot, and Shapiro_Wilk test (P<0.05). The assumption of homogeneity of variances was violated as assessed by Levene's test for equality of variances, P=0.001. Therefore, log transformation was done to correct the data. After log transformation, the homogeneity of variances and the normality of the data were corrected.

Pearson's correlation was done to identify the relationship between the eight competencies. The results indicated that there is a strong significant relationship between facilitating learning competency and the competency of function as a leader and change agent (p=0.000, r=0.91). Additionally, a significant relationship was found between facilitating competency learning and developing an educator role competency (p=0.001, r=0.80). In addition, the competency of assessment and evaluation strategies was also found to be adequately associated with facilitation of learning competency (p=0.01, r= 0.63). This results suggests that for the novice nurse educators to develop facilitate learning competency, they need to demonstrate leadership ability and also to gain assessment and evaluation competency. In addition, the competency of assessment and evaluation strategy was significantly associated with the competency of curriculum design and evaluation (p=0.001, r=0.87). This indicates that it was expected that nurse educators must be involved in curriculum design and evaluation competency in order to develop assessment and the evaluation strategy competency. Moreover, there was a significant relationship found between the competency of developing the educator role and facilitating learner development (p=0.001, r=0.75), the competency of assessment and evaluation (p=0.002, r=0.75), and the competency of function as a leader and change agent (p=0.005, r=0.70). This suggests that in order for novice educators to develop the educator role, they should be able to demonstrate assessment and evaluation strategy ability and also leadership ability.

The results also suggested that there are five competencies out of eight indicating novice nurse educators' preparedness to assume the role of faculty: facilitate learning (P=0.00), use assessment and evaluation strategies (p=0.001), participate in curriculum design and evaluation (p=0.001), function as change agents and leaders (p=0.001), and develop an educator role (p=0.001). In addition, the results indicated that facilitating learning competency (Beta= 0.024, t= 6.88, p= 0.001) and assessment and evaluation competency are the significant predictors for novice nurse educators

preparedness (Beta= 0. 043, t= 8.38, P=0.000). Describing the goodness of fit, the F-test= 47.56 and the p-value= 0.000. This suggests that the model has the explanatory power to detect the relationship between the competencies and the preparedness to assume the role of faculty. The adjusted R square is 0.92, which means that the model could predict 92% variability in the preparedness accounted by the competencies. Therefore, this model is considered a good model to predict the relationship between competencies and preparedness.

Moreover, the results suggested that, gender (Beta=0.11, wald=0.05, df= 1, p=0.80), marital status (B=2.26, wald, 3.14, df=1, p= 0.076), and years of experience (B=0.40, wald= 0.14, df=1, p=0.70) are not significant predictors for novice educators' preparedness. Describing the goodness of fit, the pseudo R square=0.31, X2 = 4.55, df= 2 and the p-value = 0.10; this suggests that the model is not a good model to predict the relationship between marital status, gender, and years of experience.

Overall, the results indicated that 53% of the novice nurse educators showed preparedness and demonstrated nurse educators' competencies.

CONCLUSION

The study aimed to assess novice nurse educators preparedness to assume the faculty role. The results suggested five competencies out of eight indicating novice nurse educators' preparedness: facilitate learning, use assessment and evaluation strategies, participate in curriculum design and evaluation, function as change agents and leaders, and develop an educator role. In addition, the results indicated that facilitate learning competency and assessment and evaluation competencies are significant predictors for novice nurse educators' preparedness. Overall, the results indicated that 53% of the novice nurse educators showed preparedness and demonstrated nurse educators' competencies. This suggests that appropriate plans to improve novice educators' development as well as various support mechanisms must be developed to ease their socialization. An intensive orientation program must be designed for novice educators to ensure their preparedness to assume the faculty role.

Limitations of the Study: The sample was very small, which limits the generalizability of the findings.

Conflict of Interest: None

Source of support: Self-funded

Ethical approval: Ethical approval was obtained through a MOH ethical committee prior to commencement of the study. Additionally, a permission letter to all nursing instates' deans was sent for the purpose of allowing the participants to participate in the study. Willing participants were asked to sign in the consent form before filling in the questionnaire.

REFERENCES

1. Brown T .Challenges of a Novice Nurse Educator's Transition From Practice to Classroom, Doctoral disseratation (2015). Retrieved online from : http://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=1569&context=dissertations
2. Dewert M , Babinski L & Jones B. Safe passages: providing on-line support to beginning teachers. Journal of Teacher Education, 54(4), (2003). 311-320.
3. Diekelmann N. Experienced practitioners as new faculty: New pedagogies and new possibilities. Journal of Nursing Education. 43(3), (2004). 101-103.
4. Duchscher J. A process of becoming: the stages of new nursing graduate professional role transition. Journal of Continuing Education in Nursing 39 (10), (2008). 441-452.
5. Duphily N. The experience of novice nurse faculty in an associate degree education program. Teaching and Learning in Nursing, 6(3), (2011). 124-130.
6. Fadia A , Barbara F. Socialization of new teachers: Does induction matter Teaching and Teacher Education 26, (2010). 1592-1597
7. Goodwin-Esola M, Deely M, Powell N. Progress meetings: facilitating role transition of the new graduate. Journal of Continuing Education in Nursing 40 (9), (2009). 411- 415.
8. Hill Y, MacGregor J. Charting the course of change. Journal of Clinical Nursing Education in Practice, 13, (1998). 323-327.
9. Hudson S & Beutel D. Teacher induction: what is really happening? Paper presented at the Australian Teacher Education Association conference, Wollongong, Australia. (2007).

10. Jacobson S, Sherrod R. Transformational mentorship models for nurse educators. Nurse Science Quarterly, 25(3), (2006).279-84.

11. Jewell A. Supporting the novice to nurse to fly: A literature review. Nurse learned. Journal of Nursing Education, 49(3), (2013). 126-131.

12. McDonald M. Developing trustworthy classroom tests. (second edition), Mastering the teaching role: A guide for nurse educators, Philadelphia: F. A. Davis. (2008). pp. 275-286.

13. National League for Nursing Funding for nursing education research (Position Statement). (2002). Retrieved from: http://www.nln.org/about/position-statements/archived-position-statements

14. National League for Nursing. Core competencies of nurse educator with task statements. (2005). Retrieved from http://www.nln.org/profdev/corecompetencies.pdf National League for Nursing.

15. Neese R. A transformational journey from clinician to educator. The Journal of Continuing Education in Nursing 34 (6), (2003). 258–262

16. Pena A. The Dreyfus model of clinical problem-solving skills acquisition: A Critical Perspective. Medical Education Online, 15, (2010). 1-11.

17. Penn B, Wilson L, Rosseter R. Transitioning From Nursing Practice to a Teaching Role. The Online Journal of Issues in Nursing; 13(3), (2008). 24-29.

18. Prosser S. Shifts and transitions: career histories of teachers of nursing. Unpublished PhD thesis. (1997).

19. Quinn F. Hughes S. Quinn's Principles and Practice of Nurse Education. Fifth Edition. Lucy Mills:London. `(2011). pp 30-33.

20. Reece S. Pearce C. Melillo K & Beaudry M. (2001). The faculty portfolio: Documenting the scholarship of teaching. Journal of Professional Nursing, 17(4), 180-186.

21. Rouse F. From expert to novice: An exploration of the experiences of new academic staff to a department of adult nursing studies. Nurse Education Today, 28, (2008). 401–408

22. Shinyashiki G. Mendes I, Trevizan M, Day R. Professional socialization: students becoming nurses. Revista Latino-Americana de Enfermagem, 14 (2006). 601–607.

23. Utley R. Theory and research for academic nurse educators Boston, MA: Jones and Bartlett. (2011). pp 15-20

24. Wong H, Britton T & Ganser T. What the world can teach us about new teacher induction. Phi Delta Kappan, 86(5), (2005). 379e384

25. Young P & Diekelmann N. Learning to lecture: Exploring the skills, strategies, and practices of new teachers in nursing education. Journal of Nursing Education, 41(9), (2002). 405-412.

26. Zeichner K & Gore J Teacher socialization. In W. R. Houston (Ed.), Handbook of research on teacher education. New York: Macmillan. (1989). Pp 232 -54

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