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Psychosocial Attributes of Partner Relationship: A Qualitative Study

G. Mini[1], Nair M.K.C.[2], Sasikumar Asha[3], S. Remadevi[4]

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Abstract

Partner relationship refers to the degree of intimacy, affection and contentment felt by the couple in their relationship. Psycho-social attributes plays a vital role in maintaining a harmonious relationship between partners. The objectives of the study were to explore the psychological and social attributes of partner relationship among married and divorced males and females. Qualitative design was adopted using in-depth interviews and focus group discussion techniques. Ten psycho-social themes emerged after content analysis; viz communicating within family, mutual understanding, trust and commitment, love and caring, Personal attributes, bonding with children, Influence of support system, satisfying sexual life, exploitation and conflict resolution and coping styles. The study can be useful in couple counseling sessions and pre-marital guidance programme for identifying and foreseeing the major psycho-social areas of concern in a marital relationship, thereby equip them to handle the discrepancies tactfully and effectively.

Keywords: *Partner relationship, Psycho-social attributes, Marriage.*

Introduction

Happiness and fulfilment springing from a harmonious marriage can play a crucial role in couples' lives, because these affect their physical and psychological health.[1] Traditional Indian society consider marriage and harmonious married life as an yardstick to assess reputation of individuals as well as to the family. The institution of marriage in Kerala appears to be facing serious glitches causing tremendous rise in failure marriages.[2] This trend is being reflected in family courts around the state, where divorce petitions are stacking up. The number of divorce cases filed in the family court during 201 was 11668, which increased to 19757 during 2017.

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Many couples are capable to catch all the key ingredients which contribute to a happy and satisfied married life while others lack some elements in their bond which gives rise to consequences that are not always desired.[3] Lack of trust, communication, mutual respect, love and understanding contribute to the deterioration of the bond resulting in adverse consequences like divorce.[4]

The current study used a qualitative approach to investigate the various psychosocial attributes which contributed to a happy and successful marital life and absence of which can cause serious issues leading to marital disharmony. The objectives of this study were to explore the psychological attributes of partner relationship among married and divorced males and females and to investigate the social attributes of partner relationship among married and divorced males and females

Material and Method

The study used qualitative approach with sequential exploratory design using in depth interview and focus group discussion as data collection techniques. The study setting included different geographical locations

of Thiruvananthapuram district. The areas selected were rural, urban/non-slum, slum and coastal under the jurisdiction of Thiruvananthapuram Taluk. Those married below the age group of 60 years residing in rural, urban, coastal and slum communities in Trivandrum district were the source population. The sampling method was purposive sampling and the key stakeholders selected from each category for the present study were listed below;

Table 1: Method, key stakeholders and sample size from each category

Sl.No.	Method	Key stake holders	Number of samples	Total Number
1.	In-Depth Interviews (IDI)	Experts in the respective fields	11	25
		Married men	5	
		Married women	5	
		Separated/divorced men	2	
		Separated/divorced women	2	
2.	Focus Group Discussion (FGD)	Rural women (1)	12	56
		Rural men (1)	9	
		Urban women (1)	10	
		Urban men (1)	8	
		Costal men (1)	9	
		Slum women (1)	8	

Point of redundancy was criteria for fixing sample size.

The data were collected from the stake holders using in-depth interviews and focus group discussions. The IDI schedule and FGD guide were prepared with open ended questions, separately for married people and subject experts which included relevant topics to be explored with subtopics, probes and concluding questions. Prior appointment was taken before each interview in a place with fewer distractions. We obtained informed consent from each participant before the interview. The interviews were audio recorded with permission. FGD was conducted in 6 settings arranged with the help of a contact person from a selected area. Informed consent for participation and audio recording of discussion was taken from participants. Sociogram of the FGDs was made and notes were also taken by two assistants.

Data processing and analysis: The verbatim collected from each stakeholder were transcribed and translated. The steps of thematic analysis were; **open coding** where free listing of responses and pile sorting was done; **axial coding,** to find out the relationship between themes and sub themes and **selective coding**, where the data was summarized and a final model is formed. Thematic analysis resulted in the emergence of ten themes and sub themes under psychosocial aspects.

Findings: Ten themes emerged from content analysis seemed to be significant for keeping good partner relationship in the opinion and perception of the interviewees. They were;

Communicating within family: Majority expressed communicating within family, is the key to healthy relationship. The subthemes under the theme effective communication included form of communication, failing to let each other know what's happening at house,transparency in communication and availability of quality time. Verbatim of interviewees expressed this.

"I always felt sitting together and talking is helpful in solving many problems. Discussing day today problems by each other relieves pressure and makes the bond stronger leaving little misapprehension".

(Urban married female)

"He will keep silence when he dislikes something; if I advance again it will create problems and if I finish it there, everything will go well". (Rural married female)

If the spouses failed to communicate their problems, feelings, needs, and expectations, their marital relationship can end up in failure. Fowers stated

that a well-adjusted marital relationship is enhanced by fostering couples with training in communication skills,which will help them resolve future marital conflicts.[5] Couples are generally directed to improve their communication skills to increase harmony and avoid conflicts.

Mutual understanding: Most of them agreed that mutual adjustment in the family is a vital element in a successful marital life. Adjustment includes a wide array of sub themes like knowing the strength and weakness of the spouse, perceiving the needs of the spouse and responding accordingly, appreciate the likes and dislikes of the spouse, adjustment with in-laws, adjustment with work related issues (career/household work) of partner, adjusting with the recreational activities of other family members.

An interviewee reported *"In my opinion, understanding each other is very important as it helps to bear with each other's weaknesses, interests and habits. I think, the one who adjusts with each other is the most happier". (Clinical Psychologist)*

Understanding and adjusting each other helps in growing a health marital relationship. Mutual understanding helps to identify the strengths and weaknesses of spouses, recognize the worries and expectations, which helps to make the life easier to live and enhance smooth relationship between them. Findings from a study indicated that for wives, the strongest predictor of a healthy marriage is, understanding of their husbands.[6]

Trust and commitment: Majority of married women expressed that trust is another important factor of happy marriage. It includes sanctity and faith in marital relationship, be with the partner at times of crisis, and considering marriage as a social commitment-marriage is not only between two individuals but with two families.

"Trust is an important underpinning of happy marriage and if there is mistrust between couples, it is not good, then the relationship won't last long. It is really tough to live with the person who doesn't trust you because he/she makes your life a hell. So tome spouses should learn to trust each other".

(Divorced urban female).

"When you trust your partner you give him/her a certain degree of independence which showsa healthy relationship. A distrustful partner can easily make his/her and his/her own partner's life miserable with his suspicions and doubts". (Social scientist)

Trusting your partner provide him/her with certain degree of independence, on the other hand a distrustful partner can make the marital life miserable. Hence trusting and believing each other has a positive influence on a marital relationship.

Loveand Caring: Majority believed that love and caring has undeniable importance in marital relationship. Caring is a healthy expression of love. It includes protecting and supporting the partner, expression of love according to expectation and showing concern to the needs of the partner.

"Caring is a way of showing love and affection to your partner. Serving him food he likes, being dressed according to his choice, taking care of his likes and dislikes and giving importance to his wishes show that you care for him which in turn gain the love and acceptance from the spouse". (Rural married female)

Caring is a healthy expression of showing love among partners. If spouses love each other but not showing their affection by any means, misunderstandings will sprout up in their relationship.

Personal attributes: Majority expressed that personal attributes like personality traits, mental health, habits, personal hygiene and life values of the partner are significant in maintaining a harmonious marital relationship.

"Personality problems of spouse are the major reason for seeking divorce by women. Doubtfulness, abusing in-laws, insulting the spouse in front of others, physical abuse etc is the various grounds they usually display for filing petition in court."

(Lawyer Family Court)

Personality problems like aggressiveness and short temper among spouses create more problems and unpleasantness in their relationship. A study highlights that persons with more pleasant temperaments, were happier in their marriages.[7] Analysis from another study revealed that husbands with poor marital quality had more personality problems than those with good marital quality.[8]

Satisfying sexual life: All most all of them believed that sexuality has an indisputable value in marital life. It

can be the major reason for parting among couples in a marital relationship. The subthemes derived in sexuality include satisfaction with sexual life, perceiving the sexual needs of the partner, forced sex against willingness and monotonous in sexual life.

"When he wants me, he came and does whatever he wanted to do, not at all considering my feelings and emotions. He considers me as a device for fulfilling his needs" (Divorced urban female)

Sex is an inevitable, natural, mysterious and tempting celebratory expression in marital relations. Sexuality stimulates a sense of bonding, compassion, unity and love among couples.[9]

Bondingwith Children: Half to majority of the married women agreed that children are the core factor of marital life. The sub themes derived were involvement of both partners in child rearing practices, maintaining disciplinary actions and having dreams & expectation about children.

"I'm living with my spouse only because my children need father and mother. They are the striving force for leading my life forward". (Urban married female)

Children play a significant role in establishing a strong marital relationship.Couples who cannot have their own children mostly remain dissatisfied with their marital life and mostly such marriages end up in divorce or husband's second marriage.[10] Childcare is also an important area of conflict among married partners.[11,12]

Influence of Support System: Nearly half of the married people opined that support system from the family members, friends/peers and other religious organization can play some role in marital relationship.

"In-laws play a crucial role in the relationship between spouses. Too much indulgence by them in the personal matters of spouses can create problems. If they are good they will try to understand the spouses but if they are not good, the relation can end up in divorce". (Divorced urban male)

Family structure and influence of friends can also have an effect on a relationship. In a joint family system, sharing of problems can be more which can ease marital problems, but some may feel it undesirable due to too much interference.

Exploitation: Some of them believed that exploitation is an important attribute which hinder marital satisfaction and adversely affect partner relationship. Exploitation includes psychological vehemence (getting belittled in front of others), in humaneness by family members and abuse by family members. An interviewee stated

"He will never miss an opportunity to belittle me and my family members in front of others. It is more painful than making a slap" (Divorced urban female)

Conflict resolution and coping: Majority of the respondents viewed that conflict resolution and copping strategy has a significant role in maintaining good marital relationship. It mainly depends upon frequency of conflict between partners, style of approaching the conflict, process of conflict resolution strategies and seeking help from others for solving conflicts.

"Disagreements can happen in any relationship; often more common in marital relationship, but how the couple tackle the problems is the real challenging one. Couples should learn different strategies to manage and handle conflicts between them and develop skill in adopting various coping mechanisms to run a smooth marital relationship". (Psychiatrist0

Major reasons for conflicts in Indian scenario are related to dowry and physical abuse,not giving equal status to wife and emerging nuclear family systems. Women are stressed at work as well as at home, leading to short temper and distress in all areas of life.[13]

Conclusion

The current study throws light to the psycho-social attributes which is considered to be most important for a happy and satisfied marital relationship. The psycho-social themes emerged were communicating within family, mutual understanding, trust and commitment, love and caring, Personal attributes, bonding with children, Influence of support system, satisfying sexual life, exploitation and conflict resolution & coping styles. Early detection of the areas of dispute among couples is significant since it gives a golden opportunity for early intervention, which will bring back the couple in a stable relationship. Although the above mentioned psycho social attributes are essential for a happy marital life, how a person rates these factors and how much importance he/she gives to each of them varies from person to person.

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Ethical Considerations: The investigator obtained clearance from the Institutional ethics committee before collecting data and has taken informed written consent from each participant. Participant information sheet was also shared which assured privacy and confidentiality of data.

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Job Stress between Male and Female Health Workers in Selected Primary Health Centres

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Abstract

The research approach adopted for this study was comparative and descriptive survey. Objectives are to assess the job stress experienced by the male and female health workers. Compare the job stress of male and female health workers. Associate the job stress of male and female health workers with their selected demographic variables. A study was conducted in selected Primary Health Centre (Shanthigram, Dudda, Mosahalli, Salgama, Pension mohala) at Hassan. A sample comprised of 30 male and 30 female health workers on the alternative days the investigator selected 4 health workers by using Non-probability convenient sampling. The research design selected for the study was descriptive non-experimental design. The tool was used for the data collection was structured interview questionnaire, which has two sections. Section-A provides about socio-demographic data and section-B deals with job stress scale. The results of this study showed that the overall mean job stress score of male health workers was 27.92 with the standard deviation 23.14 and female health workers was 24.33 with the standard deviation 6.38. The overall mean job stress score of female health workers was significantly less than the male health workers. The ANOVA value was significant at $p < 0.01$ level showed that there was an association between satisfactions of job with the job stress male health workers. The ANOVA value was significant at $p < 0.05$ level showed that there was an association between leisure time activities and habitants with the job stress female health workers. There was no significant association between job stress and demographic variables like age type of family, number of children, social support, religion, additional qualification, income, working hours and year of experience.

Keywords: *Job stress, health workers.*

Introduction

The health workers play an important role in health team along with other health professionals. The strives for the prevention of disease, promotion of health and prolonging the life of individuals and the community. Although many professionals and services which are involved or interrelated in dealing with patients care, health workers are considered to be the key person. Health workers are the coordinator of all the services and persons concerned with patients care.

At the community level, the health workers need to act as a hostess, parents, teachers and friends. They are the one who maintain direct contact with the patient and their relatives. They hears their complaints and problems and often they will be blamed for many of their unmet demands though they are not the one who makes decision on such issues.

The health worker is responsible for entire community, they has to maintain a number of register in her day to day community routines. So they as a supplier, manager, an accountant, a coordinator, a clerk and so on (suryamani 1986). Their supervisor expects them to carry on all these functions along with patient care without any delay.

Stressful conditions are prevalent in the health care sector. Researches has identified certain work related stressor involved in nursing, including exposure to death and dying, frustrated ideals, noise, population interpersonal conflict, lack of knowledge and insufficient social support.

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Job stressors represent environmental conditions that may effects coping responses and directly associated with the role they play and include sources of stress associated with role overload career development and responsibility.

Gallup Poll (2000) identified from the organization that:

- 30 % employees with back ache.
- 29 % were complained of stress.
- 20 % felt fatigue.
- 17 % with muscular pain and
- 13 % with head ache.[1]

Role of the health workers is potentially very stressful. There is a requirement to provide help, support and training to enable them to function successfully. An individual stress at workplace have emerged all common and significant problem.[2]

Work related stress or mental ill health appears to be increasing. Population based data on incidence are scarce but, in the United Kingdom occupational physicians and psychiatrists reports these conditions to voluntary surveillance schemes.[3]

NIOSH Reported in 1990's as

- 40 Percentage of workers reported their job was very stressful.
- 25 percentage views their jobs as the number one stressor in their lives.
- 29 percentage of workers felt quiet a bit or extremely stressed at work
- 26 percentage of workers said that they were "often or very often burned out or stressed by their work".[1]

Throughout the 19th and 20th centuries the twin word "stress" and "strain" has been used in everyday life in non-specific sense. Psychiatrist also described mental tension as nervous stress and strain. Selye used the term stress in a very specific way to indicate a task for a danger situation.[4]

The number of married person who are employed outside the home has increasing significantly in recent years in urban India. Employment results in addition to their roles and changes in their life experiences. In a country where the growth and development and inner experience of women are inextricably in the socio-economic and cultural factors, it would be reasonable to expect that any effort to secure gainful employment is likely to bring a change in the quality of life.[5]

Statement of the problem: A comparative study to assess the job stress between male and female health workers in selected primary health centers at Hassan.

Objectives:

1. To assess the job stress experienced by the male health workers.
2. To assess the job stress experienced by the female health workers.
3. To compare the job stress of male and female health workers.
4. To associate the job stress of male and female health workers with their selected demographic variables.

Hypothesis: There will be a significant difference in the level of stress between male and female health workers.

Materials and Method

a. Research approach: Quantitative approach.

b. Research design: Comparative descriptive design.

c. Sample size: 60 health workers.

d. Sampling technique: Non-probability convenient sampling technique.

e. Tools: Socio- demographic variables, Job stress scale

f. Inclusion criteria

- Health workers those who are working in a selected Primary health centre, at Hassan.
- Both male and female health workers working in selected primary health centre at Hassan.
- Health workers those who are willing to participate.
- All the health workers above the age of 25 years.
- Health workers who can understand, Kannada and English language.

Exclusion criteria:

- The health workers those who are not willing to participate.
- The Health workers who are practicing stress reduction strategies like yoga and meditation.

Findings:

Table 1: Percentage Distribution of Level of Stress in different aspects among Male Health Workers (n=30)

Term. No.	Stress Scales	Level of Stress				
		SA	A	N	DA	SDA
		n (%)	n (%)	n (%)	n (%)	n (%)
1	Your job requires that you learn new things.	25 (83.3)	5 (16.7)	-	-	-
2	Your job requires a high level of skill.	12 (40.0)	18 (60.0)	-	-	-
3	Your job allows you freedom to decide how you do your job.	3 (10.0)	22 (73.3)	1 (3.3)	3 (10.0)	1 (3.3)
4	Your job requires that you do things over and over.	11 (36.7)	11 (36.7)	7 (23.3)	-	1 (3.3)
5	Your job is very hectic.	3 (10.0)	10 (33.3)	12 (40.0)	5 (16.7)	-
6	You are free from conflicting demands that others make.	12 (40.0)	7 (23.3)	9 (30.0)	-	2 (6.7)
7	Your job security is good.	16 (53.3)	9 (30.0)	4 (13.3)	1 (3.3)	-
8	Your job requires a lot of physical efforts.	8 (26.7)	15 (50.0)	1 (3.3)	3 (10.0)	3 (10.0)
9	You have a lot to say about what happens in yours job.	12 (40.0)	17 (56.7)	1 (3.3)	-	-
10	You are exposed to hostility or conflict from the people you work with.	1 (3.3)	16 (53.3)	2 (6.7)	9 (30.0)	2 (6.7)
11	Your supervisor is helpful in getting the job done.	9 (30.0)	21 (70.0)	-	-	-
12	The people you work with are helpful in getting the job done.	10 (33.3)	20 (66.7)	-	-	-

Table 2: Percentage Distribution of Level of Stress in different aspects among Female Health Workers (n=30)

Term. No.	Stress Scales	Level of Stress				
		SA	A	N	DA	SDA
		n (%)	n (%)	n (%)	n (%)	n (%)
1	Your job requires that you learn new things.	27 (90.0)	3 (10.0)	-	-	-
2	Your job requires a high level of skill.	22 (73.3)	5 (16.7)	3 (10.0)	-	-
3	Your job allows you freedom to decide how you do your job	19 (63.3)	5 (16.7)	4 (13.3)	1 (3.3)	1 (3.3)
4	Your job requires that you do things over and over.	25 (83.3)	5 (16.7)	-	-	-
5	Your job is very hectic.	22 (73.3)	5 (16.7)	3 (10.0)	-	-
6	You are free from conflicting demands that others make.	22 (73.3)	3 (10.0)	5 (16.7)	-	-
7	Your job security is good.	19 (63.3)	1 (3.3)	2 (6.7)	4 (13.3)	4 (13.3)
8	Your job requires a lot of physical efforts.	20 (66.7)	4 (13.3)	5 (16.7)	1 (3.3)	-
9	You have a lot to say about what happens in yours job.	25 (83.3)	2 (6.7)	3 (10.0)	-	-
10	You are exposed to hostility or conflict from the people you work with.	11 (36.7)	3 (10.0)	3 (10.0)	4 (13.3)	9 (30.0)
11	Your supervisor is helpful in getting the job done.	28 (93.3)	1 (3.3)	1 (3.3)	-	-
12	The people you work with are helpful in getting the job done.	25 (83.3)	5 (16.7)	-	-	-

Table 3: Comparison of Mean Stress Score between Male and Female Health Workers in different aspects (n=60)

Term. No.	Stress Scales	Stress score				
		Male HW		Female HW		Student t–value p - value
		Mean	S.D	Mean	S.D	
1	Your job requires that you learn new things.	4.83	0.38	4.90	0.31	t = 0.75, p=0.456 (Not Significant)
2	Your job requires a high level of skill.	4.40	0.50	4.63	0.67	t = 1.53, p=0.131 (Not Significant)
3	Your job allows you freedom to decide how you do your job	3.77	0.90	4.33	1.06	t =2.23, p<0.05 (Significant)
4	Your job requires that you do things over and over.	1.97	0.96	1.17	0.38	t = 4.23, p<0.001 (Significant)
5	Your job is very hectic.	3.37	0.89	4.63	0.67	t = 6.23, p<0.001 (Significant)
6	You are free from conflicting demands that others make.	2.10	1.16	1.43	0.77	t = 2.63, p<0.01 (Significant)
7	Your job security is good.	1.67	0.84	2.10	1.58	t = 1.32, p=0.191 (Not Significant)
8	Your job requires a lot of physical efforts.	3.73	1.26	4.43	0.90	t = 2.48, p<0.05 (Significant)
9	You have a lot to say about what happens in yours job.	4.37	0.56	4.73	0.64	t = 2.37, p<0.05 (Significant)
10	You are exposed to hostility or conflict from the people you work with.	3.17	1.12	3.10	1.73	t = 0.18, p=0.860 (Not Significant)
11	Your supervisor is helpful in getting the job done.	1.70	0.47	1.10	0.40	t = 5.34, p<0.001 (Significant)
12	The people you work with are helpful in getting the job done.	1.67	0.48	1.17	0.38	t = 4.48, p<0.001 (Significant)

Table 3 shows the comparison of mean stress score between male and female health workers in different aspects.

Item 3 shows that mean stress score (3.77%) among male is less than female (4.33%) on freedom to decide with the SD 0.90 and 1.06 respectively.

Item 4 shows that mean stress score (1.97%) among male is greater than female (1.17%) on work load with the SD 0.96 and 0.38 respectively.

Item 5 shows that mean stress score (3.77%) among male is less than female (4.63%) on hectic with the SD 0.89 and 0.67 respectively.

Item 6 shows that mean stress score (2.10%) among male is greater than female (1.43%) on free from conflicts with the SD 1.16 and 0.99 respectively.

Item 8 shows that mean stress score (3.73%) among male is less than female (4.43%) on physical efforts with the SD 1.26 and 0.90 respectively.

Item 9 shows that mean stress score (4.37%) among male is less than female (4.73%) on say about what happen in job with the SD 0.56 and 0.64 respectively.

Item 11 shows that mean stress score (1.10%) among male is greater than female (1.10%) on supervisor is helpful with the SD 0.47 and 0.40 respectively.

Item 12 shows that mean stress score (1.67%) among male is greater than female (1.17%) on public is helpful with the SD 0.48 and 0.38 respectively.

Item 1, 2, 7, 10 was learning new things, high level of skills, job security, exposed to hostility respectively did not show any significance.

Table 4: Comparison of overall Stress Score between Male and Female Health Workers (n=60)

Sex	Over all Stress Score		Paired t–value p - value
	Mean	S.D	
Male	27.92	23.14	t = 6.61, p<0.001(Significant)
Female	24.33	6.38	

Table 4 shows the comparison of overall stress between male and female health workers showed that the overall calculated 't' value was 6.61 and it is also significant at the level of $P < 0.001$.

Conclusion

In today's rapidly changing labors market, the consequences of stress in the work place become an issue. Men and women differ significantly on her number of work stress dimensions. In 1994-95 an average women reported the higher level of job stress. This is consistent with other research showing that, men reports more stress than do women. Health workers experienced more job stress reported physical and emotional health problems.

Conflict of Interest: Nil

Source of Funding: Self

Ethical Clearance: Study was approved by College of Nursing research committee and ethical committee. Permission sought from the concern authorities of the primary health centre before conducting the research.

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Effectiveness of Information Education and Communication on Knowledge Regarding Suicide and its Prevention among Adolescents in Selected Schools of Panipat

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Abstract

Background: Suicide is a problem of both public and mental health and is a leading cause of death especially among adolescents. Considering the high rates in adolescents the importance of providing information education and communication helps in promoting social integration and preventing suicide among adolescents.

Aims and Objectives: Study intended to evaluate the effectiveness of information education and communication regarding suicide and its prevention among adolescents in experimental group.

Materials and Method: Evaluative research approach was selected and true experimental research design was adopted to evaluate the effectiveness. Total sample size was 60 and in each group 30 samples were recruited through systematic random sampling technique. Structured knowledge questionnaire was developed and data was collected from the samples through self –reporting questionnaire method. The collected data were analysed by means of descriptive and inferential statistics by using SPSS (IBM Version 20).

Results: The post - test mean score among samples in experimental group was 17.23 (σ = 4.04) and in control group was 9.58 (σ = 3.24). Independent 't' test value was 8.0909 for the degree of freedom 58 and it is statistically significant at P value <0.05.

Conclusion: Evidence obtained from the current study shows improvements in adolescent's knowledge and awareness about suicide and its prevention. This programme also increased the problem-solving skills and self-efficacy as well as reductions in self-reported suicide vulnerability.

Keywords: *Suicide, Knowledge, Adolescents, Suicide Prevention.*

Introduction

The theme of world suicide prevention day 2017 is **'Take a minute, change a life'** highlights the importance of speaking up, taking the time, and listening.[1] for 2016 the theme of world suicide prevention day is **'connect, communicate & care'**.[2] these three words are at the heart of suicide prevention. Suicide is derived from the Latin word for "self- murder." It is a fatal act that represents the person's wish to die. There is a range, however, between thinking about suicide & acting it out. Some persons have ideas of suicide that they will never act on; some plan for days, weeks, or even years before acting; & others take their lives seemingly on impulse, without premeditation. Suicide also needs to be considered in terms of devastating legacy that it leaves for those who have survived a loved one's suicide, as well as the ramifications for the clinicians who cared for the decedents.[3]

Adolescent's age group is a very susceptible age group. These children are in the phase of transition & are undergoing physical, social, hormonal, psychological & behavioral changes. Any problem during this sensitive phase of these children prevents them from becoming productive & useful adult. Adolescents suffer with a feeling of loss of their childhood they leave behind, & undergo an arduous period of adjustment to the new adult identity. Faced with these feelings & lacking coping mechanism, adolescents can become overwhelmed & turn to escapist measures such as drugs, withdrawal & ultimately suicide.[4]

The rates of suicide have greatly increased among youth, & youth are now the group at highest risk in one third of the developed & developing countries. The emerging phenomenon of "cyber- suicide" in the internet era is a further cause of concern; also because the use of new method of suicide are associated with epidemic increases in overall suicide rates.[5] Childhood and adolescence are key suicide "prevention window" periods. Approximately one half of emotional and behavioural disorders that are well-defined risk factors for suicide have onset of symptoms by age 14 years.[6] Many effective programs for children and adolescents prevent or reduce the severity of these mental, emotional, and behavioural problems, according to a recent National Academy of Sciences review.[7]

Although young people are often reluctant to seek professional help research conducted in a high school setting has found that students most frequently rated the school counsellor as the most likely to be helpful when it comes to mental–health difficulties, compared to other health professionals.[8] Indeed, schools are an obvious and accepted environment for implementing suicide – prevention initiatives for young people displaying early signs of suicide risk.[9]

Materials and Method

In this research, true experimental research design was used to evaluate the effectiveness of information education and communication on knowledge regarding suicide and its prevention among adolescents. Samples were selected from the classes IX and X standards. 30 samples were selected in each group with the help of systemic random sampling method. Equal numbers of samples 15 from class IX and X standard were placed in both groups. Data were collected by means of self-reporting questionnaire followed by the pre–test and Information Education and Communication (IEC) was given with the help of AV aids like PowerPoint and LCD. Post–test data were obtained on the seventh day from the teaching. Same method was followed to collect data from control group but no IEC was given. The collected data were analysed by using descriptive and inferential statistics,

Findings of the Study

The following findings were obtained on the analysis of the collected data and the significant findings were presented here.

Table 1: Frequency distribution and percentage on level of knowledge among samples in experimental group (n = 30)

Sr. No	Level of knowledge	Pre-test score f %		Post-test score f %	
1	Low	16	53.33	0	0.00
2	Average	12	40.00	9	30.00
3	High	2	6.66	21	70.00

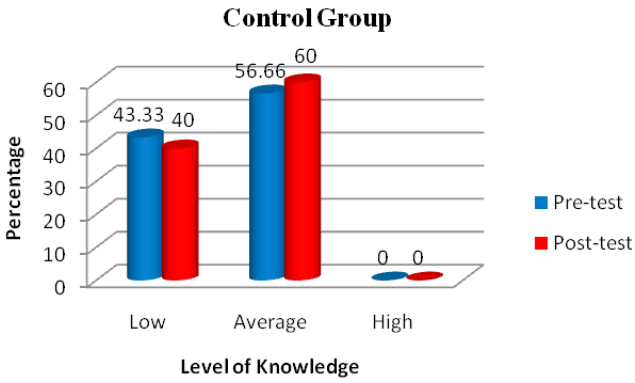

Figure 1: Cylindrical Bar Diagram Showing Frequency of percentage on level of knowledge among samples in control group

With regard to the level of knowledge among samples in experimental group, during pre–test a little above one half of the total sample 16 (53.33%) had low level of knowledge and in post–test majority of the samples 21 (70.00%) had high level of knowledge.

As given in figure 2, in control group majority of the samples 17 (56.66%) had average knowledge followed by this 13 (43.33%) had low level of knowledge. None of the samples were having good level of knowledge during pre and post - test. In post - test majority of the samples with average knowledge were 18 (60.00%) and those who were having low knowledge 12 (40.00%).

Table 2: Effectiveness of Information Education and Communication on knowledge regarding suicide and its prevention (N = 60)

S. No	Groups	Post–test Mean	Post–test Mean Difference	Standard Deviation	't' value	'P' value
1.	Experimental Group	17.23	7.65	4.04	8.909*	0.0001
2.	Control Group	9.58		3.24		

(* indicates statistically significant at 'P' value <0.05)

Table 2: shows the post–test mean score among samples in experimental group were 17.23 and standard deviation value was 4.04 and in control group the post–test mean score was 9.58 with standard deviation 3.24. the post–test mean difference was 7.65. Independent't' test value was 8.909 which was found statistically significant at the 'P' level was 0.0001.

Table 3: Level of association between post-test of knowledge of samples in control group with socio-demographic variables

S. No	Demographic Variables	Level of Knowledge		χ^2 value	'P' Value
		f	%		
1.	**Age (Years)**			7.09*	0.03
	a. 13	1	12		
	b. 14	7	7		
	c. 15	2	1		
2.	**Education status**			5.40*	0.02
	a. VIII	2	13		
	b. IX	8	7		

(* indicates statistically significant at 'P' value < 0.05)

The above table shows the level of association between post–test level of knowledge and selected demographic variables in control group. Among all the demographic variables like age, gender, birth order, education status, family pattern, father education, mother education, father's occupation, mother's occupation and family income. There was statistically significant association between post-test level of knowledge and age (χ^2 = 7.09, 'P' value = 0.03). There was also a statistically significant association between post-test level of knowledge and education status (χ^2 = 5.40, 'P' value = 0.02).

Discussion

Results of the present study were discussed based on the objectives with the supported literatures. The first objective of the study was to assess the pre-test knowledge regarding suicide & its prevention among adolescents in experimental & control groups.

With regard to an experimental group majority of samples in pre-test 16 (53.33%) had low level of knowledge. Similarly in control group majority of samples 17 (56.66%) had average level of knowledge. These findings were supported by a similar study done in Tamil Nadu by **Loganathan K (2015)** during Pre-test; the knowledge regarding risk factors and prevention of suicidal behaviour among adolescents, 45 (75%) had inadequate knowledge, 15 (25%) had moderately adequate knowledge and none of them had adequate knowledge. During post-test, 23 adolescents (38.33%) had adequate knowledge, 37(61.67%) had moderately adequate knowledge and none of them had inadequate knowledge.[10]

The second objective of the study was to evaluate the effectiveness of information, education & communication regarding suicide & its prevention among adolescents. Independent 't' test value was estimated to find the effectiveness of IEC. It was found the 't' test score was 8.909 with the 'P' value <0.0001. these findings were similar to the following study. **Khagi Maya Pun (2019)** conducted a study to assess an effectiveness of structured teaching program and compare the level of

knowledge and attitude, between experimental and control groups before and after a structured teaching program, result shows there is no significant differences in the pre-test mean score of knowledge and attitude between experimental and control groups. Whereas, in the post-test, after structured teaching program, there is a significant difference between the experimental and control groups ($P< 0.00$).[11]

Conclusion

The study results conclude that information education and communication on improving knowledge on suicide and its prevention among adolescents has a significant effect on gaining knowledge of adolescents in the selected setting. This programme also increased the problem-solving skills and self-efficacy as well as reductions in self-reported suicide vulnerability.

Clinical Implication:

1. Nursing professionals can counsel the patients about coping strategies.
2. Nursing professionals can identify the people in crisis and can teach them.
3. Nursing professionals can look for warning signs and discuss them with patient.
4. The present study results will sensitize the nursing professionals to plan interventions to curb the problems of adolescents due to increased stressful lifestyle.

Recommendations: On the basis of the present study the following recommendations have been made for the future researchers.

1. Similar kind of study can be done with knowledge and attitude of the adolescent's students
2. Similar kind of study can be replicated with large population in different settings.
3. Similar type of study can be conducted to see the factors responsible for suicide among youth and its impact on families.

Financial Support and Sponsorship: Nil

Conflict of Interest: There are no conflicts of interest.

Ethical Clearance: Prior to collecting data, the current study was presented in the ethical committee of Ved Nursing College–Panipat. Ethical Clearance obtained from the college and Pandit B.D Sharma University of Health Sciences. Rohtak.

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Family Intervention on Relapse Rate of Persons with Alcohol Dependence Syndrome

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Abstract

A study was done to determine the effectiveness of family intervention on relapse rate of persons with alcohol dependence syndrome, in selected De-addiction centre. Objectives were (1) Determine the effectiveness of family intervention on relapse rate of persons with alcohol dependence syndrome. (2) Identify the effectiveness of family intervention on Gamma Glutamyl Transferase (GGT) levels of persons with alcohol dependence syndrome. True experimental approach with pre test, post test control group design was used for 100 samples, 50 each of control and experimental groups by simple random sample. Research tools were structured questionnaire for personal data and AWARE (Advance Warning Signs of Relapse) scale. Friedman's RM ANOVA on ranks by Dunn's method and Mann Whitney rank sum test were used to evaluate the relapse rate of control and experimental groups. The pre test and post test GGT values of control and experimental groups were evaluated by unpaired 't' test. The study concluded that family interventions was effective for reducing relapse rate, GGT level showed a significant decrease in the experimental group compared to control group.

Keywords: *Family intervention, Relapse rate, Alcohol dependence syndrome.*

Introduction

Substance related disorder have become matters of global concerns because of its impact on individual health, family and social consequences, criminal and legal problems, and effect on the natural productivity and economy. Harmful use of alcohol is one of the world's leading risk factors for morbidity, disability and mortality and imparts different diseases and injury outcomes to various degrees. The harmful use of alcohol gives social and economical loses to individuals and society at large[1]. Family is an important part of the diagnosis and a treatment chain of alcohol and substance abuse. Participation of family in the treatment process will act as a supportive role in terms of preventing relapses[2]. People with alcohol dependence are more vulnerable to get relapse. Once withdrawal from alcohol is complete relapse prevention strategies help to maintain abstinence. The aim is to anticipate and prevent relapses from occurring and to minimize the negative consequences and maximize learning from the experiences[3]. A study to assess the outcome treatment of alcohol dependence syndrome among 341 cases. All patients suffering from ADS reported to follow up were scrutinized. The result showed that 33.16 percent had relapse, 35.49 percent had partial improvement and 31.35 percent cases were abstinent. The treatment will reduce the chances of relapse with subsequent reviews[4].

Gamma glutamyl transferase (GGT) is clinically important due to its sensitivity to detect alcohol abuse[5]. Drinking four or more drinks per day for four to eight weeks significantly raises level of GGT in alcohol dependent people[6]. The aim of family intervention for chemical dependence is to bring an addict back to a productive and normal person in the family and in society. Motivation to change is an important variable in the treatment outcome of an alcoholic person[7]. Very

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often alcoholic patients are getting readmitted in the De-addiction centers with relapse. So the whole family especially spouses of the patient can involve in the treatment process to reduce relapse and bring out a new life. This study also aimed towards reducing the relapse rate through family interventions.

Materials and Method

Pre testpost test control group design was used. The dependent variable was relapse rate and independent variable was family intervention. Demographic variables were age, years of marriage, type of marriage, education, occupation, monthly family income, support from family and years of alcohol usage. Using simple random sampling hundred persons (50 each in control and experimental group) diagnosed with alcohol dependence syndrome between 25–55 years of age and admitted for first time in De-addiction centre with their legally married spouses and able to read and write Malayalam were included in the study. Research tools used were (1) Structured questionnaire for demographic data(2) AWARE, the warning sign of relapse rate was assessed by the 28 item scale by Miller and Harris.

The permission for conducing study was obtained from the head of the department of De-addiction centre and informed consent was obtained from both sample and their spouses. Progressive muscle relaxation (Jacobson) was given for person subjected to study and their spouses in the experimental group, everyday in the early morning for 15 minutes and family intervention was also provided to the person and their spouses in the experimental group everyday for 15 minutes with a help of a video assisted program till discharge. A diary was given to them to record the level of adherence based on the family intervention. Telephone conversation was made with spouses once in every week to remind the family intervention. Family intervention was again reminded to the experimental group whenever they came for second, fourth and sixth month of follow up after discharge. Assessment of warning signs of relapse by aware questionnaire was done in their post assessments (1,2 and 3) and GGT was assessed for both control and experimental groups during their admission time and in third follow up (post test three).

Findings: Table 1 shows the effectiveness of family intervention on relapse rate of persons with alcohol dependence syndrome. AWARE Questionnaire was used for assessing the warning signs of relapse. When score increases, relapse symptoms also increases. The table values represented in terms of median. The median score of control group in post test 1, post test 2 and post test 3 were increased and risk were high for relapse. Post test score was 116 and in experimental group it was only 32. Hence the experimental group had less chances for getting relapse. Table 2 shows the gamma glutamyl transferase score level in control and experimental groups. Control pre test and post test were analyzed in terms of mean and standard error. Pre test mean 251.4 which is reduced to 123.3 in control post test. In experimental group Mean was high in pre test (mean 147) and significantly decreased to 23.7 when post test was done.

Figure 1, The control and experimental groups were evaluated by Friedman's RM ANOVA on ranks by Dunn's comparison with each post test. Both groups p value is <0.001, but experimental group had significant difference with control group. Post test 1, post test 2 and post test 3 between control and experimental groups were evaluated by Mann Whitney rank sum test. 'p' values were ($P < 0.001$). The findings revealed that family intervention was very effective in experimental group when compared with control group.

Figure 2 Indicates that paired 't' test was done to see the changes between pre test and post test of control group, it was not significant ($P = 0.048$) and a significant difference was seen in experimental group ($P<0.001$) and unpaired 't' test for control pre test and experimental pre test were not significant ($P<=0.141$). Control group post test and experimental group post test score were analyzed and a significant difference was observed ($P <0.001$). The findings revealed that family intervention was very effective in experimental group when compared with control group.

Table 1: Effectiveness of family intervention on AWARE score of persons with alcohol dependence syndrome

S.No.	Parameter	Group	Median (Percentile)
1	Aware (warning signs of relapse)	Control Post test 1	62 (48-83)
		Control post test 2	95 (67-117)
		Control post test 3	116 (96-127)
		Experimental Post test 1	48 (42-58)
		Experimental post test 2	40 (36-52)
		Experimental post test 3	32 (30-36)

n = 50 each, Statistical interpretation is given in Figure 1.

Table 2: Assessment of gamma glutamyl transferase (GGT) of persons with alcohol dependence syndrome before and after family intervention

S.No.	Parameter	Group	Mean± SE
1	Gamma Glutamyl Transferase (GGT)	Control Pre test	M=251.4
		Control post test	M=123.3
		Experimental pre test	M : 146.76
		Experimental post test	M : 23.7

n = 50 each, Statistical interpretation is given in Figure 2

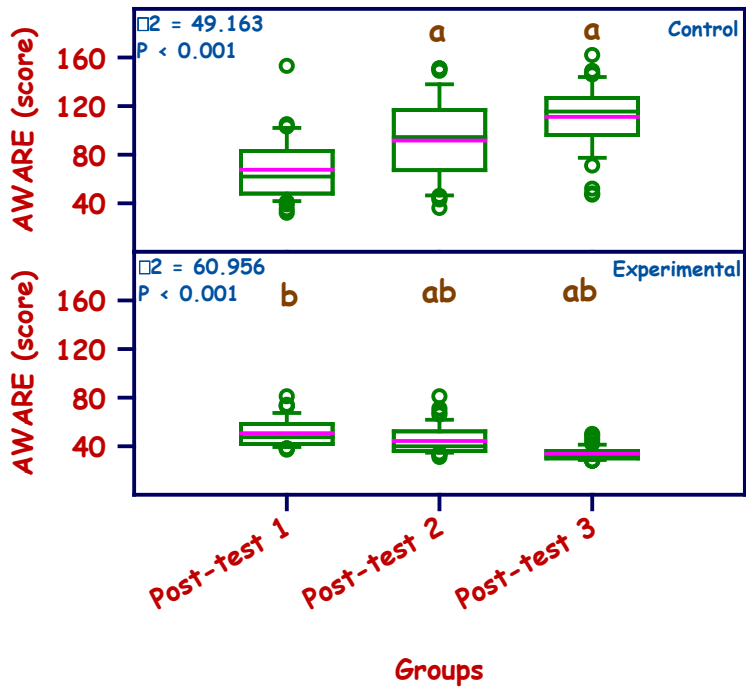

Figure 1: Effectiveness of family intervention on relapse rate (AWARE SCORE) of persons with alcohol dependence syndrome (n = 50 each).

The middle green line is the median and the pink line is the mean.

The control and experimental groups are evaluated by Friedman's RM ANOVA on ranks with Dunn's comparison with pre-test.

a. **Significantly different the respective post-test:** The post-test 1, post-test 2 and post-test 3 of control and experimental are compared by Mann Whitney rank sum test. The 'T' and 'P' values of post test 1 are 1643 and <0.001, the 'T' and 'P' values of post-test 2 are 2877 and < 0.001, the 'T' and 'P' values of post-test 3 are 3011 and < 0.001

b. Significantly difference in the post-test.

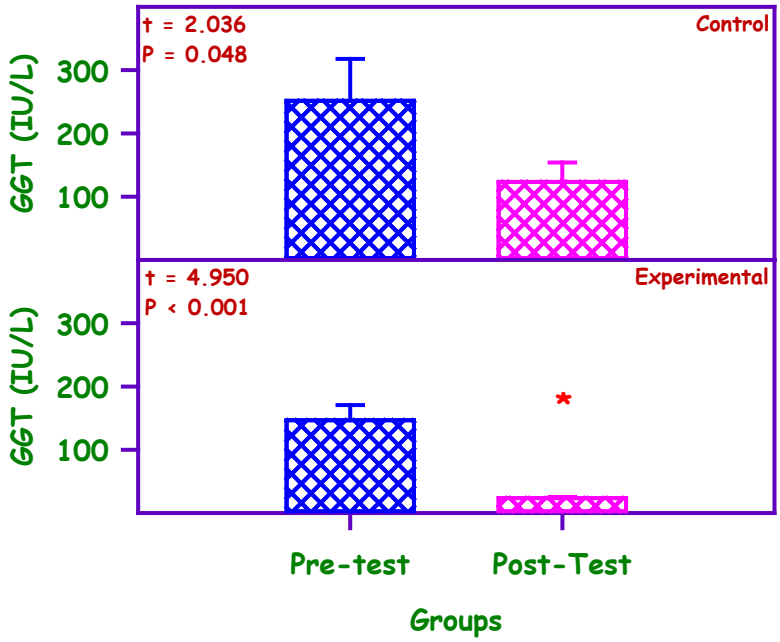

Figure 2: Effectiveness of family intervention on gamma glutamyl transferase (GGT) among persons with alcohol dependence syndrome.

Mean + SE (n = 50 each).

The 't' and 'P' values are by paired 't' test of pre-test and post-test.

The pre-test and post-test of control and experimental were evaluated by unpaired 't' test.For the pre-test the 't' and 'P' values are 1, 484 and 0.141, and for the post-test the 't' and 'P' values are 3.348 and < 0.001.

* Significantly different from control for the respective pre-test or post-test.

Discussions

Alcohol relapse is a major problem in the society. It affects the person, family, society and nation as a whole. Research article shows that craving for alcohol is always a problem to restart alcohol. In order to avoid this, alcoholic person and family should get adequate awareness regarding relapse preventive measures. Involving family members especially spouse will influence the continuity of the treatment.

In this study relapse rate was measured by AWARE Questionnaire and assessment of serum gamma glutamyl treansferase (GGT). AWARE Questionnaire was used for assessing the warning signs of relapse. It was done for control and experimental groups during their post test 1, 2 and 3GGT assessment at admission time (pre test) and at third follow up (post test 3) Friedman's RM ANOVA on ranks by Dunn's method was used to compare the values of post test 1, post test 2 and post test 3 of control and experimental group and experimental group had significant effect due to FFI ($P<0.001$). Between the groups were assessed by Mann whitney rank sum test,post test 1, post test 2 and post test 3 of control and experimental groups were shown significant changes. Experimental group had significant reduction in AWARE score compared with control group due to family intervention ($P<0.001$).

A similar study was performed to understand the warning signs of relapse among 84 individuals. They were assessed for one year in every two months intervals. The AWARE Scale was administered to find any slips or drinking to heavy drinking. Relapse rate for clients with highest AWARE Scores as projected by regression equations were 33 to 46 percent higher

than those with lowest AWARE Scores. The article conducted that Gorski's warning signs to be a reliable and valid predictor of alcohol relapses[8].

Paired t test for GGT was done for pre test and post test of control group and pre test and post test of experimental group. Experimental group had significant reduction compared to control group ($p < 0.001$).It was 83 percent reduction of GGT in experimental group where as 51 percent only in control group.GGT was used as a clinical marker for identifying relapse in this study. Family intervention helped the experimental group from relapse symptoms and reduction in serum values of GGT.A similar study was conducted to see the GGT level by a randomized control trial to evaluate the effect of intervention in excessive drinkers. 23.38 subjects were selected on raised GGT and randomized to intervention and control group. After 2 years GGT was decreased from 1.52 to 1.21 mkat/l($P=0.02$) in the intervention group. But in the control group it was increased from 1.75 to 2.16 mkat/l [9].

A study was done to assess the deviation in blood chemistry in persons with substance abuse and its relationship with substance dependence. 93 subjects were selected and divided into three groups such as alcohol, opiate and amphetamine dependent. The result suggests that increased activity of gamma glutamyl transferase, AST and ALT were noticed in alcohol and opiate dependent people than amphetamine group[10].

A similar case study was done for a client with alcohol dependence syndrome having poor motivation was selected for study. Psychosocial intervention including family intervention was provided to the patient and his family members. At the end of the therapy, the client improves knowledge regarding the illness and the motivation level was enhanced to action phase and achieved the coping skills to recover from relapse[11].

The effect of family intervention on relapse rate had significant change in experimental group by the analysis of AWARE score and GGT. Control group also had changes in their score values than the pre test due to the effect of treatment followed by the de-addiction centre. However the effect of experimental group was better than the control group. Various modules of family intervention imparted to the persons with alcohol dependence syndrome in the experimental group and their spouses enabled them to change their past attitudes and to formulate a positive approach in their lives.

Conclusion

The present study concluded that the result shows significant difference in the post test values of AWARE Score of experimental group when compared to control group after family intervention.

There is significant reduction of GGT in experimental group compared to control group after family intervention.

Conflict of Interest: The author had no relationship/ condition/circumstances that present a potential conflict of interest.

Source of Funding: The author didn't receive any financial support from any third party related to the submitted work.

Ethical Clearance: This study was conducted after getting approval from the institutional ethics committee and after obtaining written consent from all subjects.

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A Pre-Experimental Study to Assess the Effectiveness of Structured Teaching Program on Knowledge Regarding Occupational Health Hazards among the Housekeeping Staff in Selected Hospitals of Panipat

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Abstract

Introduction: Studies on hospital cleaning staff are scarce. Hospital cleaning is far more complex than cleaning offices or schools. Hospital cleaning therefore requires teaching and training. They are liable to hazards of several magnitudes. Regular teaching of basic microbiological principles for all cleaning staff, and assessment of hazards have proved beneficial.

Aims: To assess the knowledge of housekeeping staff regarding occupational health hazards.

Materials and Method: The methodology of the presents study was a pre experimental research design. Sample size of the study was 60 selected with non-propability sampling technique. Self-structured knowledge questionnaire on occupational health Hazards among housekeeping staff was used ford at a collection. Data collection method was self-reporting questionnaire method; data analysis was done with the help of descriptive and inferential statistics.

Result: The results of the study shows that in pre-test, housekeeping staff were having an average 75% knowledge regarding selected questionnaire on occupational health hazards and mean score was 18.77 in post-test, average 86.66% knowledge regarding selected questionnaire on occupational health hazards and means score was 22.93, The post-test mean knowledge score is significantly greater than the pre-test mean knowledge score so structured teaching programme was effective.

Conclusion: The study concluded that the structured teaching programme was effective in enhancing the knowledge of housekeeping staff regarding occupational health Hazards.

Keywords: *Effectiveness, Structure teaching programme, Knowledge, Occupational health Hazards, Housekeeping staff.*

Introduction

"An Ounce of Prevention is worth a Pound of Cure"
(Benjamin Franklin)

Hospital is one of the complex institutions which are frequented by people from every walk of life from society without any distinction between age, sex, race and religion. This is over and above the normal inhabitants of hospital i.e. patients and staff.[1]

Studies on hospital cleaning staff are scarce. Hospital cleaning is far more complex than cleaning offices or schools. Hospital cleaning therefore requires teaching and training. However, cleaners are often not provided with any form of training and new recruits are often provided with nothing more than a routine introduction to the cleaning process. The cleaners may perform poorly at the job and allow key microbial reservoirs in the clinical environment go unrecognized. They are also liable to hazards of several magnitudes. Regular teaching of basic microbiological principles for all cleaning staff, and assessment of hazards have proved beneficial.[2]

Though, the cleaners are unskilled, they play a vital role in the workings of the hospital. These groups of people though exposed to various hazards and health challenges are often neglected and basic preventive measures including education and training for health and safety are usually overlooked. In the developed countries these categories of workers are usually not covered by legislation, and do not have access to basic occupational health services available to other staff.[3]

Hospital cleaners routinely clean patient rooms, nursing units, surgical areas, administrative offices, laboratory areas, waiting areas and public restrooms. They clean furniture, polish floors and vacuum carpets. They empty trash and restock medical supplies. Hospital cleaners also collect dirty laundry from all patient areas and distribute the clean linen and hospital gowns back to the appropriate quarters. Some also take inventory of any repairs or replacements. Hospital cleaners are subjected to various occupational health hazards that also affect professional health care workers. Problems such as poor posture, mechanical load on the joints, prolonged standing, long working hours, missed meals, not taking breaks during work hours, as well as being subjected to physical factors such as noise and higher temperatures are important occupational health hazards for these workers. They often times are exposed to various forms of work hazards like accidental exposure to the blood and body fluids of patients similar to their counterparts.[5]

Despite mounting modifications to the work, through new technologies, changes in work organization and the emergence of new professions, it appears that some issues continue to challenge everyone, such as suffering, illness, accidents related to work. These issues, and have consequences for the people themselves, result in damage to the institutions and society. It is emphasized that occupational or occupational disease is a disease that the employee acquires due to exposure to factors that can that can be chemical, physical and biological, and harm the worker's body continuously or frequently, and for a long time in its Desktop. When working conditions beyond the tolerable limits of the organism, the probability of causing disease in work is significant.[6]

Statement of the Problem: "A pre-experimental study to assess the effectiveness of structured teaching program on knowledge regarding occupational health hazards among the housekeeping staff in selected hospitals of Panipat".

Objectives of the Statement:

- To assess the pre-test and post-test knowledge regarding occupational health hazards among housekeeping staff in selected hospitals of Panipat.
- To assess the effectiveness of structured teaching program on knowledge regarding occupational health hazards among housekeeping staff in selected hospitals of Panipat.
- To associate the pre-test knowledge of occupational health hazards among housekeeping staff in hospitals of Panipat with their selected socio-demographic variables.

Hypothesis: All the hypothesis will be tested at P> 0.05 level of significance.

H1: The mean post- test knowledge scores of the housekeeping staff after structured teaching program will be significant higher than their mean pre-test knowledge score.

Assumptions:

a. Housekeeping staff will have inadequate knowledge regarding occupational health hazards in healthcare setup.

b. Structure teaching program will enhance the knowledge of housekeeping staff regarding occupational health hazards in healthcare setup.

Research Methodology: Methodology of research organizes all the components of the study in a way that is most likely to lead to valid answers to the problems that have been posted. **(Burns and Groove, 2002)**

Research Design/Setting of the Study: One group pre-test post test research design taken. Setting is the general physical location in which data collection takes place. **(Polit and Beck, 2004)**. The study was conducted in selected private hospitals of Panipat, Haryana. In present study the researcher selected one hospital (Cygnus hospital)for pilot study and three hospitals (Hydrabaadi, Aayushmaan bhav and IBM hospital) for main study. The population included in the study are housekeeping staff working in selected hospitals of Panipat. The sample size of the study is 60 housekeeping staff. Non-probability convenient sampling technique will be used.

Description of the Tool: In this study tools has two parts.

Part-A: Demographic Variable

Part-B: Self-Structured knowledge Questionnaire on occupational health hazards among housekeeping staff.

Data Analysis: Descriptive and inferential statistic was used for data analysis. The plan of data analysed is as follow: Computation of frequency and percentage for the analysis of socio-demographic variable. Arithmetic mean, percentage, standard deviation was calculated. Paired 't' test to test the significant difference between pre-test and post-test knowledge score. The level of significance was set as 0.05.

Data Analysis & Interpretation:

- The first objective of the study is to assess the pre and post- test knowledge regarding occupational health hazards among housekeeping staff in selected hospitals of Panipat.

The result according to first objective: Three fourth of the total samples 45 (75.00%) were having average knowledge. Those who had good knowledge were one fourth of the sample 15 (25.00%). None of the sample had poor knowledge.

- The second objective of the study was to evaluate the effectiveness of Structured –teaching programme regarding occupational health hazards among housekeeping staff in selected hospitals of Panipat.

The result according to second objective was: Majority number of the samples 52 (86.66%) in post–test scored good level of knowledge. Those who got average knowledge were 8 in number (3.34%). None of the samples were under poor knowledge.

- The third objective of the study was to find the association between the pre-test knowledge scores with their selected socio demographic variables.

With regard to age majority of the samples 23 (38.33%) were in age between 21 –25 years. Those who were in age between 26 –30 years were 22 (36.67%). One fourth of the total samples 15 (25.00%) were in age between 31 –35 years.

Education of the samples reveals that majority of them 33 (55.00%) were had primary education. Rest others 27 (45.00%) were no literates.

With regard to gender of the samples majority 36 (60.00%) were males and others were females 24 (40.00%).

Area of duty shows that majority of the samples 40 (66.66%) were working in surgical ward. One fourth of the samples who participated in the present study were worked in labour ward 15 (25.00%). Less number of samples 5 (8.34%) were having their duty in medical ward.

With regard to type of duties equal number of samples 30 (50.00%) had general duties and day/night shift respectively.

Monthly income of the samples shows that majority of the samples 22 (36.66%) were earning between 50001–10000 Rs. The second highest number of samples 18 (30.00%) had less than 5000 Rs monthly income.

With regard to experience in years majority of the samples 33 (55.00%) had one year of working experience. Rest of the samples were having two years of experience. Majority of the samples 36 (60.00%) had undergone hepatitis vaccine. Those who had not done hepatitis vaccine were 24 (40.00%).

Level of association between pre –test knowledge and selected socio–demographic variables: The Age variable is not statistically significant with Pre –test knowledge (χ^2 = 1.278. 'P' Value = 0.528).Education is not statistically significant with Pre –test knowledge (χ^2 = 3.793. 'P' Value = 0.50). Sex variable is not statistically significant with Pre –test knowledge (χ^2 = 0.370. 'P' Value = 0.385).Area of duty is not statistically significant with Pre –test level of knowledge (χ^2 = 0.800. 'P' Value = 0.670).Type of duties is not statistically significant with Pre –test knowledge (χ^2 = 0.800. 'P' Value = 0.670). Experience in years variable is not statistically significant with Pre –test knowledge (χ^2 = 2.716. 'P' Value = 0.088). Last variable Hepatitis vaccination is found not statistically significant with Pre–test knowledge (χ^2 = 0.370 'P' Value = 0.385).

Mean. Mean Difference, Standard Deviation and 't' Test Values: The mean pre –test knowledge score was 18.77 and the post–test mean score was 22.93, their mean difference was 4.16. the pre –test standard deviation value was 2.540 and their post–test standard deviation was 2.007. the calculated 't' test value was 11.359 and the 'P' value was 0.000. This was less than 0.05. Hence it was concluded that null hypothesis was rejected and alternate hypothesis was accepted.

Summary, Conclusion, Implication and Recommendations:

Major Findings of the Study: Frequency and percentage distribution of samples according to socio–demographic variables shows the following findings.

- With regard to age majority of the samples 23 (38.33%) were in age between 21 –25 years. Those who were in age between 26 –30 years were 22 (36.67%). One fourth of the total samples 15 (25.00%) were in age between 31 –35 years.
- Education of the samples reveals that majority of them 33 (55.00%) were had primary education. Rest others 27 (45.00%) were no literates.
- With regard to gender of the samples majority 36 (60.00%) were males and others were females 24 (40.00%).
- Area of duty shows that majority of the samples 40 (66.66%) were working in surgical ward. One fourth of the samples who participated in the present study were worked in labour ward 15 (25.00%). Less number of samples 5 (8.34%) were having their duty in medical ward.
- With regard to type of duties equal number of samples 30 (50.00%) had general duties and day/ night shift respectively.
- Monthly income of the samples shows that majority of the samples 22 (36.66%) were earning between 50001 –10000 Rs. The second highest number of samples 18 (30.00%) had less than 5000 Rs monthly income.
- With regard to experience in years majority of the samples 33 (55.00%) had one year of working experience. Rest of the samples were having two years of experience.
- Majority of the samples 36 (60.00%) had undergone hepatitis vaccine. Those who had not done hepatitis vaccine were 24 (40.00%) The table II shows the frequency and percentage distribution of samples according to pre –test knowledge.
- Three fourth of the total samples 45 (75.00%) were having average knowledge. Those who had good knowledge were one fourth of the sample 15 (25.00%). None of the sample had poor knowledge.

The table III shows the frequency and percentage distribution of samples according to post–test knowledge.

- Majority number of the samples 52 (86.66%) in post–test scored under good knowledge. Those who got average knowledge were 8 in number (13.34%). None of the samples were under poor knowledge.

Nursing Implications: The current study findings have implications in all the field of nursing like nursing practice, nursing education, nursing administration and nursing research. The implications can be discussed as follows:

Nursing Practice: Nurses can arrange some educational sessions like educational exhibition and demonstration for housekeeping staff as well as for other healthcare personals for improving their knowledge and quality of nursing care. Nurses working in the community could collaborate with the Industries and hospitals to improve the Knowledge of workers on prevention occupational health hazards and health safety measures.

Nursing Education: Nurses at post graduate level need to develop skills in preparing various teaching method in various specialized areas at the level of housekeeping. Nurse educators can arrange the interactive method with the housekeeping staff who works in hospitals with low level of education faces a number of health hazards during work. Making use of advanced technology like LCD projector and power point presentations not only improve the performance of teacher but also help the housekeeping staff to understand very easily and can develop their interest in teaching.

Nursing administration: The present study has proven effectiveness of health education enhancing the Knowledge of housekeeping staff with reference to prevention of occupational health hazards. So the nurse administrator can take initiative to provide facilities to conduct research such educational programs in the institution as well as in community.

Nursing Research: The findings of the present study have added knowledge to the already existing literature and the implications for the nursing research are given in the form of recommendation. The study can be baseline for the future studies to build upon and motivate other researchers to conduct further studies.

- All the Healthcare workers should be included in the research activities.
- The study should research the practice of housekeeping staff regarding prevention of the occupational health hazards.

Recommendations:

- Similar study can be done with control group.
- The study can be replicated in different settings.
- Large sample size can be used for the study.

CONCLUSION

From this study finding, it was concluded that structured teaching programme was effective in improving the knowledge of housekeeping staff regarding occupational health hazards in healthcare setup and how it will be beneficial in different responsibilities of nurses.

Ethical Clearance: Taken from Research Committee Ved nursing college.

Source of Funding: Self

Conflict of Interest: Nil

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A Pre-experimental Study to Assess the Effectiveness of Structured Teaching Program on Knowledge Regarding Psychological Effects of Computer Addiction Professionals among the IT in a Selected Setting, Bangalore

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Abstract

'A study to assess the effectiveness of structured teaching programme on knowledge regarding psychological effects of computer addiction among the IT Professionals in a selected setting, Bangalore'. Objectives are assesses and compares the pre and post-test level of knowledge regarding psychological effects of computer addiction. Quantitative Pre -experimental one group pre-test and post- test only design. Setting was Cerulean Information Technology Pvt Ltd, Bangalore. 60 IT Professionals Self–administered structured questionnaire. Both descriptive and inferential statistics were used for data analysis. Findings, at the pretest level majority of the IT Professionals (52) had inadequate knowledge, 5 had moderately adequate knowledge, 3 had adequate knowledge. At the post test level most of the IT Professionals 37 had adequate knowledge and 23 had moderately adequate knowledge. There is a significant difference between the pre and posttest level of knowledge among IT Professionals. There is a statistically significant association of mean improvement knowledge score of IT Professionals with their selected demographic variables. Majority of the IT Professionals 37 exhibited adequate level of knowledge in the post test.

Keywords: *Effectiveness, Structured Teaching Programme, Knowledge, Psychological effects, Computer addiction, IT (Information Technology) professional.*

Introduction

In the 21st century, the computer is the uninvited member of the family rather than the television. Most of the people are spending more time on- line, and less time with their family members and friends. People are increasingly depending on the computer not only to get our work done, but also for entertainment, fun and even to sustain ourselves.

According to Orzack Computer use has risen exponentially in the past decade. Almost everyone has some access to a computer, whether it is at home, work, school, the public library, or a local community centre[1].

In globally, statistics concluded that 9-15 million people access net each day, with an estimated 200 million total worldwide user. Some people spend 14-18 hours a day on-line and they work 10 hours in computer and then go home and get on-line[2]. Areport says that in USA above 5 years of age children spend lot of time on computer and spend monthly internet bill of 2000$[3].

According to WHO, The sub-continent of India with a population of above one billion is rated as a "dynamic adapter" in Technology Advancement India (TAI). This indicated that our country is having a faster rate of technological advancement especially related to computerization is evident from the statistical figures, which show that the percentage of industrial development is 12.5% whereas that of agricultural sector is only 2.4% **.** The main reason behind that is the Information Technology (IT) revolution-taking place in India[4].

A survey report says that IT demand in India is 4, 00,000 per year[5]. A report says that 30% of Indians are addicted to Internet[6]. A study concluded that 16% of schoolboys are addicted to computer[7].

Objectives:

1. To assess the pre-test level of knowledge regarding

psychological effects of computer addiction among the IT Professionals.

2. To assess the post-test level of knowledge regarding psychological effects of computer addiction among the IT Professionals.
3. To compare the pre and post -test level of knowledge regarding psychological effects of computer addiction among the IT Professionals.
4. To associate the mean improvement knowledge score regarding psychological effects of computer addiction among the IT Professionals with selected demographic variables.

Research Hypothesis:

NH_1: There is a significant difference in the pre and post-test level of knowledge regarding psychological effects of computer addiction among the IT Professionals.

NH_2: There is a significant association of mean improvement knowledge Score regarding psychological effects of computer addiction among the IT Professionals with selected demographic variables.

Research Methodology: Methodology is the significant part of any research study which enables the researcher to project a blue print of the research undertaking.

Research Approach: Quantitative Research Approach

Research Design: Pre Experimental One group Pre- test and Post- test only Design

Variables: Variables are concepts which can take different values at different situation.

Independent Variable: Structured teaching program regarding psychological effects of computer addiction.

Dependent Variable: Knowledge of IT Professionals regarding computer addiction.

Setting: The study was conducted in Cerulean Information Technology Pvt Ltd, Bangalore. This setting comprises of nearly 100 employees. This is one of the private organizations

Population: The study population comprises of nearly 60 IT Professionals those who are working in Cerulean Information Technology Pvt Ltd, Bangalore.

Sample: The study sample comprises of IT Professionals who fulfilled the inclusive criteria.

Sample Size: The sample size consists of 60 IT Professionals.

Sampling Technique: Non- probability convenient sampling technique was used to select the sample.

Development and Description of the Tool: After extensive review of literature and discussion with the experts and with the investigator's personal and professional experience, a structured questionnaire was developed to assess the effectiveness of structured teaching programme on knowledge regarding psychological effects of computer addiction among the IT professionals.

The tool for the data collection consists of two sections:

Section A: Demographic Variables consists of age, sex, educational status, nature of work, occupational status, years of experience, monthly income, marital status, type of family and residential area.

Section B: Consists of structured questionnaire to assess the knowledge of the IT Professionals regarding psychological effects of computer addiction, totally 50 questions were formulated under separate sub-headings.

Scoring Key: Total numbers of items are 50 and each item is scored as,

Never - 0, occasionally –1, Always - 2, Total score –100.

Level of knowledge:

Inadequate - < 50%

Moderately adequate - 51 –75

Adequate - >75%

Data Analysis and Interpretation: The data findings have been tabulated and interpreted according to plan for data analysis.

The data collected from 60 samples were grouped and analyzed using descriptive and inferential statistics. The results are presented under the following sections.

Table 1: Frequency and percentage distribution of pre-test level of knowledge different aspects of psychological effects of computer addiction among IT Professionals. N=60

Knowledge	Frequency	Percent
Inadequate	52	86.7
Moderately Adequate	5	8.3
Adequate	3	5.0
Total	**60**	**100.0**

Table 1 depicts the frequency and percentage distribution of pre-test level of knowledge on different aspects of psychological effects of computer addiction among IT professionals.

With respect to psychological effects of computer addiction, 52(86.7%) had inadequate knowledge, 5(8.3%) had moderately adequate knowledge, 3(5%) had adequate knowledge.

Table 2: Frequency and percentage distribution of post-test level of knowledge on Different aspects of psychological effects of computer addiction among IT Professionals N=60

Knowledge	Frequency	Percent
Moderately Adequate	23	38.3
Adequate	37	61.7
Total	60	100.0

Table 2 depicts the frequency and percentage distribution of post-test level of knowledge on different aspects psychological effects of computer addiction among IT professionals.

With respect to psychological effects of computer addiction, 37(61.7%) had adequate knowledge, 23(38.3%) had moderately adequate knowledge.

Table 3: Comparison of pre-test and post- test level of knowledge regarding Psychological effects of computer addiction among IT professionals Mean, Mean Difference, SD, t –test value of level of Knowledge N= 60

S.No.	Group	Number	Mean	Mean Difference	Standard Deviation	't' value
1	Pre-Test	60	51.41	22.45	15.93	16.68*** df=59 P=3.4632
2	Post-Test	60	73.86		8.47	

* Significant at 0.001 level

Table 3 reveals the comparison between the pre-test level of knowledge and post -test level of knowledge regarding psychological effects of computer addiction among IT professionals.

The comparison of pre test and post test level of knowledge of IT Professionals revealed the 't' value was 16.68 which showed a high statistical significance at P<0.001 level

Discussion

This chapter concentrates on the findings of the study derived from the statistical analysis and its pertinence to the objectives set for the study.

The demographic data distribution of subjects who participated in the study has been presented in Table 3 reveals the frequency and percentage distribution of IT professionals based on demographic variables such as age, sex, educational status, nature of work and occupational status.

With regard to age, majority of IT professional 25(41.7%) were in the age group of 31 –40 yrs, 16(26.7%) were in the age group 0f 41 –50 yrs, 10(16.7%) are in the age group of above 50 yrs, 9(15.0%) were in the age group of 21 –30 yrs, with regard to sex 35(58.3%) were males,25(41.7) were in female, with regard to education 35(58.3%) IT professionals had completed certified computer course, 15(25%) had completed their under graduate, 10(16.7%) had completed their post graduate, with regard to occupational status 36(60%) were in middle level,12(20%) were in senior level, 7(11.7%) were in junior level, 5(8.3%) were in entry level, with regard to nature of work and 7(11.7%) were part time53(88.3%) were full time IT professionals.

It reveals that frequency and percentage distribution of IT professionals based on demographic variables such as years of experiences, monthly income, marital status, type of family, residential area. With respect to the years of experience, 5(8.3%) had 1–3 years of experience, 17(28.3%) had 4-6 yrs of experience, 18(30%) had

7-10 yrs of experience, 20(33.3%) had above 10 yrs of experience,with regard to monthly income 7(11.7%) had a monthly income Rs.≤ 20,000,11(18.3%) had a monthly income between Rs. 20,001-30,000, 23(38.3%) had a monthly income between Rs.30001 –40000, 19(31.7%) had a monthly income between Rs. Above 40,000, with regard to marital status 11(18.3%) were single, 46(76.7%) were married, 1(1.7%) were divorced,2(3.3%) were widow, with regard to type of family 52(86.7%) were from nuclear family, 8(13.3%) were from joint family and with regard to residential area 52(86.7%) were living in urban area, 5(8.3%) were living in semi urban area, 3(5%) were living in rural area

The overall pre-test level of knowledge score among IT professionals revealed that 52(86.7%) of IT professionals had inadequate knowledge, 5(8.0%) had moderately adequate knowledge and 3(5%) had adequate knowledge.

The overall post-test level of knowledge score among IT Professionals revealed that 37 (61.7%) of IT Professional gained adequate knowledge and only 23 (38.3%) had moderately adequate knowledge.

Overall post-test mean score in the level of knowledge was 73.86 and standard deviation was 8.47 with't' value of 16.68. This showed that there was a high statistically significant difference in the level of knowledge at 0.001 levels. Based on the't' test result, the null hypothesis H_1 " There is no significant difference in the pre and post-test level of knowledge regarding psychological effects of computer addiction among the IT Professionals" stated earlier was rejected.

The association of demographic variables with mean improvement knowledge score was done using chi square test.

The findings revealed that there was a significant association in the mean improvement knowledge scores with age, nature of work, and marital status of the IT Professionals. The null hypothesis H_2 "There is no significant association of mean improvement knowledge score regarding psychological effects of computer addiction among IT Professionals with selected demographic variables" stated earlier was rejected for some of the demographic variables like age, nature of work, and marital status and accepted for other demographic variables like sex, educational status, occupational status, years of experience, monthly income, type of family and residential area.

Conclusion

The present study assessed the effectiveness of structured teaching programme on knowledge regarding psychological effects of computer addiction among IT Professionals. The results revealed that with structured teaching programme relevant to psychological effects of computer addiction was highly significant to improve the IT Professional's knowledge with the statistical value of 0.001 level.

Implications: The investigator has drawn the following implications from the study that is vital concern for nursing service, nursing education, nursing administration and nursing research.

Nursing Service: The study has got a long term visionary implication in terms of nursing practice. Advanced nursing practice is one of the evolving trend in nursing practice in which defines specified roles of nurse clinician, nurse practitioner etc., are emerging. Studies like present one contribute to development of a new specialization itself in nursing of that of 'nurse ergonomist' a specialist role of nurse who tackles the ergonomic case management in all work settings.

Nursing Education: Nurse educators to give importance to currently involving work related risk computer addiction in nursing. Specialization courses in office ergonomics can be given. In collaboration with the regulation bodies, educational institutions can arrange and conduct workshops and seminars on computer addiction as an evolving health problem to be tackled.

Nursing Administration: The necessity of an occupational health nurse is implicated not only in "environmentally unclean" but also "environmental clean" inclusive like Information Technology (IT). Provide opportunity for nurses to get involved in client teaching programmes in IT industries. Conduct occupational health check-ups and psychological assessment frequently in the work setting.

Nursing Research: Promote more research in innovative areas like computer related mental health problems. Long term longitudinal studies can be carried out as team collaborative research work in prevention of computer addiction. Efforts can be made by nurse researchers to conduct interactive session with computer professionals for maintenance of healthy working practice and also to disseminate the finding of research on psychological health problems related to prolonged computer use.

Recommendations:

- The study can be replicated in various settings with larger samples to facilitate generalization of the result.
- Various forms of interventional programme can be conducted in order to improve the knowledge regarding psychological effects of computer addiction.
- The same study can be done as comparative study among different types of workers.
- The prevalence study can be carried out to assess the computer addiction rate among computer professionals.

Ethical Consideration: Informed consent received from the subjects before conducting study

Conflict of Interest: Nil

Source of Funding: Self

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Effectiveness of Prenatal Education on Awareness Regarding Anemia and its Effect on Health among Primi Antenatal Mothers

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Abstract

Introduction: Anemia is a common problem among pregnant women, and continues to be a major public health problem worldwide with highest prevalence in developing countries. It affects half a billion women of reproductive age worldwide, and in India, prevalence of iron deficiency anemia is highest in the world that is 80%. It's largely preventable and treatable where nutritional education plays significant role, thus present study was undertaken with objectives of testing effectiveness of prenatal education on awareness regarding anemia and its effect on health.

Material and Method: A quasi experimental study was conducted in Pravara Rural Hospital at OBGY OPD of Pravara Rural Hospital among 30 purposefully selected primi antenatal mothers. The prenatal education was implemented to assess the effectiveness on awareness on anemia where pre test and post test design without control group was used. The pre tested (validity, reliability and pilot testing) structured questionnaire was used for data collection. The collected data was analyzed by using descriptive and inferential statistics wherever is required as per the objectives and hypotheses.

Results: The findings of the study revealed that the prenatal education was found effective in improving the awareness on anemia and its effect on health, and was evident from the difference between pretest (8.5±2.21) and post test (18.4±1.06) mean scores which was found statistically significant difference. The chi square analysis showed a statistically significant association between the awareness and variables like age (x^2 = 3.89) and education (x^2 = 4.16) at $p<0.05$ level.

Conclusion: The major conclusion drawn from the study that the prenatal education was found to be cost effective intervention in enhancing the awareness of primi antenatal mothers regarding anemia and its effect on health. The prevention of anemia and its complications are paramount important during antenatal period where the prenatal education plays vital part in early recognition and prevention of anemia.

Keywords: *Effectiveness, prenatal education, awareness on anemia, primi antenatal mothers.*

Introduction

Anemia in pregnancy is defined as a hemoglobin concentration below 11 g/dl. Iron deficiency anemia is e most common form of malnutrition in the world and is the eighth leading cause of disease in girls and pregnant women in developing countries.[1, 2]

World Health Organization estimated that the prevalence of anemia in developing countries among pregnant women averages 56% ranging between 35–

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100%, in the year 2009 among different regions of the world. Various studies from different regions of country have reported the prevalence of anemia to be between 33–100%. In India, the prevalence of iron deficiency anemia is highest in the world that is 80% among pregnant women are affected.[3,4]

Anemia continues to be a major public health problem worldwide with the highest prevalence in developing countries. It is found especially among women of reproductive age, young children and during pregnancy and lactation. Anemia affects half a billion women of reproductive age worldwide. In 2011, 29% (496 million) of non pregnant women and 38% (32.4 million) of pregnant women aged 15–49 years were anemic.[5]

In most of cases, anemia is largely preventable and easily treatable if detected in time. Effective management of anemia includes treatment of the underlying causes, restoration of the hemoglobin concentration to normal levels, and prevention and treatment of complications. Early detection and effective management of anemia in pregnancy can contribute substantially to reduction in maternal mortality.[6,7]

Nutrition education is an essential to optimize health of women of reproductive age in addition to pregnancy outcomes. Education programs are important as they target at enhancing subjects dietary intakes by promoting behavioral changes such as food choice and cooking ability, goal setting, motivation, and support the efforts for a change.[8]

A study on effect of planned teaching program revealed that the overall gain in knowledge in relation to prevention and management of anemia was found to be strongly and highly significant at $P<0.01$ and $P<0.05$ levels in the study group than the control group. It is concluded that planned health education programme helps to improve the knowledge and practices and it should be implemented at all levels, in hospitals and community.[9]

It was proved that along with dietary modification, iron and folate supplementation, the education also plays a significant role in creation of awareness and prevention of anemia among various category of population including the antenatal mothers. Thus the investigator was interested to carry out a study on effect of prenatal education on awareness regarding anemia and its effect on health among antenatal mothers.

Material and Method

It's a quasi experimental study where pretest and posttest design without control group approach was used assess the effect of prenatal education. The study was conducted at Obstetrics and Gynecology Out Patient Department of Pravara Rural Hospital,Loni (Bk) Maharashtra, among 30 purposively selected primi antenatal mothers. Study was approved by the Institutional Ethics/Research Committee of PIMS (DU), and protocol of study was explained to the participants and written informed consent was obtained before the enrollment. The antenatal mothers who are above 18 years of age, and willing to participate (consent) were included in the study. The pre tested structured questionnaire was used to assess the study variables, the tool was comprised of a) socio demographic data (06 items) b) maternal characteristics (06 items) and dichotomous knowledge questionnaire (25 items) respectively, and correct answer carries 1 score and wrong answer carries score of 0, and maximum score is 25 wherein the awareness level was categorized as poor, average and good.

The prenatal education consists of a) introduction b) risk factors/causes of anemia c) effect of anemia on health d) identification e) treatment of anemia f) preventive strategies and g) dietary requirements. The education was carried out individually via lecture and discussion method for 30 minutes for two times during antenatal visits. Along with education the educative materials such as leaflet, pamphlet also was supplemented for reinforcement and compliance. After the pre test, the prenatal education was implemented individually, and the evaluation i.e. post test was carried out on follow up visits with help of same structured questionnaire. The collected data were complied, tabulated and analyzed based on objectives/hypotheses with help of descriptive (mean, SD and mean %) and inferential (t test, chi square test) statistical method wherever required.

Results

Socio demographic profile of primi antenatal mothers: Half (50%) of primi antenatal mothers were 21 –25 years of age and significant percent (37%) were < 21 years of age, half (50%) of them had up to secondary school education, followed by (27%) had higher secondary education as a highest educational qualification. Half (50%) of participants were home makers and (27%) of them were engaged at agricultural work. One third (33% and 30%) of primi antenatal

mothers had monthly income less than Rs 3000 and Rs 3001 –6000 respectively, significant proportion (27%) had income Rs 6001 –9000. More than half (53%) of them were belongs to nuclear family and (40%) were belong to joint family system. Majority (83%) of primi antenatal mothers were belongs to Hindu and the remaining (17%) were belongs to Muslim religion.

Maternal characteristics primi antenatal mothers: Higher percent (46%) of primi antenatal mothers were had more than 37 weeks of gestational age, majority (67%) of them had less than 60 Kg of maternal body weight. Higher percent (57%) of participants consumed mixed diet and (43%) consumed vegetarian diet. Around (53%) of them had three antenatal visits and the remaining had first and second antenatal visits respectively. Most (93%) of primi antenatal mothers were immunized (Inj. TT) as per the mandatory vaccination requirements. A significant percent (13%) and (7%) of them had diabetes and hypertension respectively as co morbid illness.

Effectiveness of prenatal education on awareness on awareness regarding anemia and its effect on health: It was illustrated from the depicted table that the overall post prenatal education awareness mean score was score (18.4 ± 1.06) which is 73.6% of total score indicates primi antenatal mothers had 'good' level of awareness, wherein during pretest it was found 'average' awareness with mean score (8.5 ± 2.21) which was 34.1% of total score. It suggest the effectiveness of prenatal education (39.5%) in improving the awareness on anemia and its effect on health among primi antenatal mothers and found statistically significant (t = 9.56, p<0.05 level).

Table No 1: Effectiveness of prenatal education on awareness of anemia

Areas	Pre test			Post test			't' value
	Mean	SD	Mean %	Mean	SD	Mean %	
Introduction to anemia	2.7	1.41	33.7	6.2	1.21	77.5	5.48*
Effect of anemia on health	2.4	1.36	34.2	5.1	0.72	72.8	4.81*
Treatment of anemia	2.1	1.17	35.1	4.2	0.71	70.1	3.89*
Dietary requirements of anemia	1.3	0.88	32.5	2.8	0.58	70.1	3.82*
Overall	8.5	2.21	34.1	18.4	1.06	73.6	9.56*

df –29, *Significant, p<0.05

Table No 2: Association between post test awareness with their selected socio demographic and clinical variables

S.No.	Variables	x^2 value	Level of significance
1	Age	3.89	Significant
2	Education	4.16	Significant
3	Type of family	1.37	Not significant
4	Gestational age	0.82	Not significant
5	Antenatal visit	1.75	Not significant

df = 1 Table Value 3.84 (p < 0.05)

It was found that there was statistically significant association between the awareness and socio demographic variables like age (x^2 = 3.89) and education (x^2 = 4.16) at p<0.05 level, and other variables did not had any association between variables.

Discussion

The overall post test mean score of awareness on anemia and its effects on health was (18.4 ± 1.06) which is 'good' level of awareness, wherein during pretest it was found 'average' level of awareness with the mean score of (8.5 ± 2.21) and the effectiveness was 39.5%. Similarly all the sub sections also had 'good' level of awareness and the effectiveness was ranged from 35% to 43.8%. It highlights that prenatal education was effective in improving the awareness on anemia and its effect on health among primi antenatal mothers. This finding was consistent with the study done by

Khoramabadi M, Dolatian M, Hajian S, Zamanian M, Taheripanah R, Sheikhan Z et al that the prenatal dietary education increased the knowledge from the mean score of (9.21 ± 3.8) to (18.9 ± 2.6) and found significant at p<0.001 level.[10] Similarly Rasheed S and Mary CZ also noticed in their study that in pre test (53%) of antenatal mothers have inadequate knowledge wherein after the teaching program the knowledge assessment showed (78.5%) have adequate knowledge, and mean post test knowledge score was higher than the pre test score. [11]

Paired t test value depicts that there was a statistically significant difference was found between pre test and post test awareness scores on anemia and its effect on health at p<0.05 level, which was a true difference and not by chance. Similarly Rasheed S and Mary CZ noticed planned teaching program was highly effective to improve the knowledge on anemia and its management among antenatal mothers, the 't' value were found significant at p<0.001 level. [11]

A significant association was found between the post test awareness scores and demographic variables like age ($x2 = 3.89$) and education ($x2 = 4.16$), whereas other variables such as type of family, gestational age and antenatal visits did not had any association at p<0.05 level.

As emphasized through study findings that use of education and mass media's such as videos for education and training enhances the knowledge and comprehensive understanding of health and case aspects. Thus it is important to use variety of educative materials for antenatal mothers education and follow up visits etc.

Conclusion

The findings demonstrated that the prenatal education was found to be cost effective intervention in enhancing the awareness of primi antenatal mothers regarding various aspects related to anemia and its effect on health. The awareness leads to comprehensive understanding of anemia and its effect on health along with prevention etc. Thus it should be emphasized that having educational sessions with antenatal mothers and their care givers/family members regarding anemia would thereby improve their awareness which leads to early recognition of symptoms, treatment and prevention of complications. The prevention of anemia and its complications are paramount important during antenatal period where the prenatal education plays vital part in early recognition and prevention of anemia.

Source of Funding: Self

Conflict of Interest: Nil

Ethical Clearance: The study was approved by the Institutional Ethics/Research Committee (IEC/IRC) of PIMS (DU) and the ethical principles were followed while conducting a study.

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Perceived Impact of Anger on QOL of Working Adults in a Selected Institute of Dehradun

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Abstract

Anger is a completely normal, usually healthy, human emotion." However, when it gets out of control it can become destructive. Uncontrollable anger can lead to serious problems at work and in personal relationships. An exploratory study was conducted on anger, and perceived impact of anger on QOL of working adults in a selected institute of Dehradun with the aim of to identify the risk population and explore the perceived impact of anger on QOL.

Methodology: Quantitative survey approach descriptive design was used in the study to assess the perceived impact of anger on QOL. The study was by using Quota Sampling technique to select the study subjects. Data was collected from 210 working adults by using Socio-Demographic Performa, Clinical Anger Assessment Scale And Perceived Impact Of Anger Assessment Questionnaire.

Results: Data was analyzed with the help of SPSS version 20. The result showed that two third (67.1%) of the study participants were male. Mean age of the participants was 35 ± 8.2 and all the participants were aged between 20 and 56 year. The mean anger score was 9.02 ± 6.64 and the range was 0-32. More than one fourth of the study participants (76%) reported minimal clinical anger. The result shown that More than half (51%) of the study participants feel increase in their heartbeat when they get angry, loss control on their emotion because of anger and feel guilt after showing anger. Three fourth (75%) of the study participants feel sad as well when they get angry. Around two third (61%) of the study participants sometimes to always cry when they get angry. The perceived impact of anger was comparatively rated higher in the emotional area than other areas. The findings have also suggested that female have more anger as compare to male.

Conclusion: Anger affect many aspect of Quality of Life such as Physical quality of life, emotional quality of life, Occupational quality of life and Social quality of life.

Keywords: *Anger, Perceived impact of anger, Quality of Life.*

Introduction

Human emotions are fundamental to our survival but they can also do us harm. Emotional struggle add enormously to the load of human suffering. Anger is one of the most basic emotion. Anger is natural, while sometimes unwanted or unreasonable emotion that everybody experiences time to time.[1]

Anger is one of the most essential emotions along with happiness, sadness, fear and disgust, it has played an important element in our advancement. It is pervasive and dominant. It is also widely misunderstood and ignored.[2] According to English dictionary, 'anger' means: "A strong feeling of extreme displeasure".[3] And Fisher (2005) says that "Anger is a feeling nothing more and nothing less. It is no more inherently 'good' or 'bad' than any other feeling".[4]

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Mild, forms of anger may include annoyance, irritation or dislike. When we react to criticism, threat or disturbance we may become angry - and usually this is a healthy response. Anger may be a secondary response to feeling sad, lonely or frightened: According to the American Psychological Association "Anger is a entirely normal, usually healthy, human emotion". However, when it gets out of control it can become disparaging. Uncontrollable anger can lead to serious problems at work and in personal relationships, and may weaken the individual's overall quality of life.[5]

Anger has three gears; physical response, cognitive response and behavioural response: Physical reactions, usually starts with a rush of adrenaline and responses such as an increased heart rate, blood pressure, and tightening of muscles; often known as the "fight or flight" response. The cognitive experience of anger, or how one perceive and think about what is making a person angry. For example, we might think something that happened to us is wrong, unfair, and undeserved behaviour or the way we express our anger. There is a wide range of behaviour that signals anger. We may look and sound angry, turn red, raise our voices, clam up, slam doors, storm away or otherwise signal to others that we are angry. We may also state that we are angry and why, ask for a time-out, request an apology, or ask for something to change.[6]

Need of the Study: According to British association of anger management almost a third of people polled (32%) say they have a close friend or family member who has trouble controlling their anger. More than one in ten (12%) say that they have trouble controlling their own anger. More than one in four people (28%) say that they worry about how angry they sometimes feel. One in five of people (20%) say that they have ended a relationship or friendship with someone because of how they behaved when they were angry. Around two third (64%) either strongly agree or agree that people in general are getting angrier. Fewer than one in seven (13%) of those people who say they have trouble controlling their anger have sought help for their anger problems. More than half (58%) of people wouldn't know where to seek help if they needed help with an anger problem. Around eight in every ten (84%) strongly agree or agree that people should be encouraged to seek help if they have problems with anger.[7]

Mostofsky E, Penner EA, Mittleman MA(2014) conducted a systemic review on outbursts of anger as a trigger of acute cardiovascular events. Studies found that, compared with other times, there was a higher rate of cardiovascular events in the two hours following outbursts of anger.[8]

The effects of anger and stress on the brain cannot be ignored. There is evidence that chronic stress can alter brain function at the cellular level. Researchers at the Hotchkiss Brain Institute in Calgary have discovered that one of the effects of anger on the brain is that neurons in the hypothalmus, the brain's command centre for stress responses can be compromised. Normally these neurons receive different chemical signals that prompt them to switch on or off. Stress and anger compromise these functions and jeopardize the brain's ability to slow down.[9]

Many psychological consequences of anger can be seen like. Suicidal Ideation[10]. Experience and expression contribute to suicidality and the progression from suicidal ideation to plans and attempts.[11] Insomnia[12]. Mood, anxiety and substance use disorders. Which include; major depressive disorder, bipolar disorder, social phobia, generalised anxiety disorder, obsessive compulsive disorder, post-traumatic stress disorder, and alcohol and drug use disorders.[13]

Mills KL, Barrett EL, Teesson M (2007) conducted a study to examine the mental health correlates of anger in the general population of Australia. The population consist of 8841 Australians aged between 16 and 85 years. The survey assessed for 30-day DSM-IV mental health disorders and 30-day anger symptoms. The result shown that a range of mood, anxiety and substance use disorders were found to be independently associated with symptoms of anger after controlling for demographics and comorbidity. These included major depressive disorder, bipolar disorder, social phobia, generalised anxiety disorder, obsessive compulsive disorder, post-traumatic stress disorder, and alcohol and drug use disorders.[14]

Researcher is a working adult. In daily life she experience lot of complications which leads to distress and anger. After experiencing anger many consequences are seen. Working people face extra pressure extra provocation in their day to day life. The working style is too hectic now a days. Incidences of workplace arguments and workplace anger are very common. If these incidence occurs regularly it affects the concentration, performance at work and unhealthy

relationship among the employees or we can say that it leads to some psychological and physical consequences and we neglect these affects. The researcher found it necessary to explore the level of anger and its relationship with psychological wellbeing.

Aims and Objectives: Aims and objectives of the study was to identify the risk population and explore the relationship between anger and psychological wellbeing of working adults.

Method and Materials

The study was conducted in a selected Institute of Dehradun. Population was divided in two divided into two groups health workers and non health workers. Health workers was divided in three quotas Medical, nursing and Paramedical. Non health workers were divided in four quotas i.e. Account, clerical staff, engineering staff and other staff. 30 Sample from each quota were selected by using simple random sampling. Exploratory design was adopted for the study. Sample size was 210. Self reported questionnaire technique was considered to be an appropriate technique for collecting data from the participants. Clinical anger scale was used to asses level of anger. It is a standard Clinical Anger Assessment Scale developed by Dr. William E. Snell, Jr. [15]the Clinical Anger Scale (CAS), designed to measure the syndrome of clinical anger. The questionnaire contains 21 items. The author of the tool categorized the anger score as follows 0-13 - minimal clinical anger; 14-19 - mild clinical anger; 20-28 - moderate clinical anger; and 29-63 - severe clinical anger. The Test retest reliability was 0.9 and internal consistency cronbach alpha was 0.8. General Health Questionnaire -28. A self developed Perceived impact of anger Assessment Questionnaire (PIAAQ). It was designed to determine the perceived impact of anger on various domains of quality of life as reported by the subjects. It has 24 items. It assess perception of anger in five domains; Physical domain (9 items), Psychological domain (6 items), Occupational domain(5 items), Social domain (4 items). Items were not scored as the perceived impact as reported by the subjects was analyzed for frequency and percentage of response to each item. Test retest reliability was 0.9 and internal consistency reliability was 0.9. After verbal explanation in understandable language an informed written consent form was signed by each participant before data collection.

Result

Both descriptive and inferential statistics were used. The analysis of the data was done based on the objectives and hypothesis of the study. Section 1 of the study deals with Description of socio-demographic characteristics of subjects Mean age of the study participants was 35 year with a standard deviation of 8.2 years and varied between 20 to 56 years. Around two third (67%) of the study participants were male, majority (57.6 %.) of participants lives in joint family and around three fourth (78%) were married. Majority (57%) of the participants were non health workers.

The mean of number of family members were five with a standard deviation of 2.4 and Ranged from two to twenty. The mean of number of children was 2 with a standard deviation of 1.2 and ranged between 0-6.

Section two deals with the interpretations of findings as per the study objectives. On analysis it was found that around three fourth (76%) of the study participants had minimal clinical anger whereas only one percent (n=2) of subjects assessed to have severe clinical anger. The mean anger score was 9.02 with a standard deviation of 6.64 and the range was 0-32. Most of the participants in all the departments reported to have minimal clinical anger. Very few participants in nursing and other (miscellaneous) showed severe clinical anger.

Perceived impact of anger assessment questionnaire assesses the perceived impact of anger in four domains i.e. Physical domain (9 items), psychological domain (6 items), occupational domain (5 items) and social domain (4 items). The perception was rated on a four point Likert scale i.e. never, rarely, sometimes and always. The responses of sometime and always were clubbed together and considered as agreement whereas the response of never and rarely were clubbed together and considered as disagreement. The responses of participants were analysed by frequency and percentage of agreements and disagreements.

The table No. 1 shows the percentage of participants whose perception was decribed based upon their agreements for each domain of quality of life.

Perceived impact of anger was assessed in physical, psychological, occupational and social domain. The result reveals that perceived impact of anger was more

in psychological domain followed by physical domain where as the impact was very minimal in social and occupational domain. The result shown that More than half (51%) of the study participants feel increase in their heartbeat when they get angry, loss control on their emotion because of anger and feel guilt after showing anger. Three fourth (75%) of the study participants feel sad as well when they get angry. Around two third (61%) of the study participants sometimes to always cry when they get angry.

Table No. 1: Perceived impact of anger on physical quality of life. (N=210)

S.No.	Items	Agreements Frequency and percentage
Physical Domain		
1.1	After an episode of anger I experience tiredness.	27 %
1.2	After an Episode of anger I experience poor sleep quality.	27%
1.3	My anger has a bad effect on my health.	28%
1.4	I loose appetite when I am angry.	25%
1.5	I Often feel headache after an attack of anger	28%
1.6	Getting angry increased my heartbeat	41%
1.7	My angry mood has an effect on my weight gain and weight loss.	9%
1.8	Sometimes I get physically hurt due to my angry behaviour.	13%
1.9	Anger alter My bowel pattern	15%
Emotional domain		
2.1	When I get angry I feel sad as well	75 %
2.2	Because of anger I loss control on My emotions as well	51%
2.3	At height of anger I use to cry	61%
2.4	After showing anger I feel guilt later	51%
2.5	I think anger is a very negative part of My personality.	35%
2.6	Because of angry mood I use to yell on people.	36%
Occupational Domain		
3.1	I have faced troubles in My job because of my temper.	13%
3.2	I lose my concentration from work due to my anger	18%
3.3	My colleagues avoid talking to me because of my temper.	11%
3.4	I usually fails to complete My task because of my anger.	8%
3.5	I don't have harmonious relationship with My colleagues due to my anger.	6%
Social domain		
4.1	I have poor social relations because of My anger	5%
4.2	My family member/close friends hesitates in sharing their feeling with me because of My anger	9%
4.3	I usually argue with My neighbours	8%
4.4	I Made My neighbours enemy due to My anger	6%

Discussion

The findings of the study had been discussed with references to the objectives and hypothesis in light of other studies conducted in same area. The result reveals that perceived impact of anger was more in psychological domain followed by physical domain where as the impact was very minimal in social and occupational domain Painuly NPet al[16] conducted a study to explore anger attacks in depressive and anxiety disorders. The result showed that anger attacks were associated with more anxiety and irritability, and poorer quality of life. Frequency of anger attacks had a positive correlation with depression, irritability and aggression.

Ethical Clearance: Ethical Clearance was obtained from Ethical committee of the university.

Source of Funding: Self

Conflict of Interest: Nil

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Effect of Video Assisted Teaching on Knowledge and Practice in Prevention of Recurrence of Myocardial Infarction among Post Coronary Angioplasty Patients

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Abstract

Introduction: Cardiovascular disease is the leading cause of death in the world and India. According to World Health Organisation survivors of Myocardial Infarction (MI) are at increased risk of recurrent infarctions and have an annual death rate of 5% - six times that in people of the same age who do not have coronary heart disease. The present study was aimed at assessing the effect of video assisted teaching on knowledge and practice regarding recurrence of myocardial infarction. The objectives of the study were to assess the pre-test level of knowledge and practice in prevention of recurrence of MI among post coronary angioplasty patients, determine the effect of video assisted teaching on level of knowledge and practice in prevention of recurrence of MI among post coronary angioplasty patients and associate the selected sociodemographic and clinical data variables with pre-test level of knowledge and practice on prevention of recurrence of MI among post coronary angioplasty patients.

Method: Quasi experimental approach with one group pre-test post-test design was used. Data were collected from 40 post angioplasty patients using simple random sampling. Pre-test was conducted using structured knowledge questionnaire and structured practice checklist followed by administration of video assisted teaching. Post-test was done on 15th day.

Results: Majority of the samples 33(82.5%) were males. About 27 (67.5%) were having family history of cardiac and vascular disorders. Only 15 (37.5%) maintained ideal body weight. Wilcoxon signed rank test showed a highly significant ($p<0.001$) difference in the pre-test and post-test scores. The pre-test and post-test knowledge score were 8.05 ± 4.35 and 21.13 ± 2.289 respectively ($p <0.001$). The pre-test and post-test practice score were 4.75 ± 2.048 and 14.08 ± 0.829 respectively ($p <0.001$).

Conclusion: Video assisted teaching was effective in improving level of knowledge and practice in prevention of recurrence of MI among patients who had undergone coronary angioplasty.

Keywords: *Video assisted teaching, Knowledge, Practice, Coronary angioplasty, Recurrence of myocardial infarction, Coronary artery disease, cardiovascular disease, Percutaneous coronary intervention.*

Introduction

In 2020, coronary artery disease will be responsible for a total of 11.1 million deaths globally. Someone suffers a coronary event every 26 seconds and someone dies from one every minute in the USA. According to American Heart Association (AHA) statistics, 770000 Americans suffered a new coronary attack in 2008, and a further 430000 experienced a recurrent attack. An additional 190 000 silent first heart attacks are estimated to occur each year[1].

Cardiovascular diseases (CVDs) have become the leading cause of mortality in India. In Western

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populations only 23% of CVD deaths occur before the age of 70 years; in India, this number is 52%[2]. The death rate due to cardiovascular diseases declined by a significant 41 per cent in the US between 1990 and 2016, whereas in India it rose by around 34 per cent from 155.7 to 209.1 deaths per one lakh population in the same period[3].

Kerala holds first position in cardiovascular diseases in India. The prevalence of high CVD risk in those aged 30 to 74 years was 14.6% among females and 31.7% among males[4]. The epidemic of Coronary Heart disease in Kerala warrants urgent actions in terms of expanding public education, control of primordial & primary risk factors by population based and high-risk interventions[5].

In a randomized study on follow up after angioplasty have revealed 6-month rates of angiographically demonstrated restenosis ranging from 32% - 42% after balloon angioplasty and from 16% to 32% after the implantation of a non–drug-eluting stent; the 6-month rate of restenosis after the implantation of a drug-eluting stent is less than 10%. The most common manifestation of clinically relevant restenosis is exercise-induced angina, followed by unstable angina (25%) and acute myocardial infarction (5–10%)[6].

Objectives:

1. Assess the level of knowledge and practice in prevention of recurrence of myocardial infarction among post coronary angioplasty patients.
2. Determine the effect of video assisted teaching on knowledge and practice in prevention of recurrence of myocardial infarction.
3. Associate the selected sociodemographic and clinical data variables with pre-test level of knowledge and practice on prevention of recurrence of myocardial infarction.

Operational Definitions:

- **Effect:** It refers to the extent to which video assisted teaching has its impact on knowledge and practice among patients who had undergone coronary angioplasty regarding prevention of recurrence of myocardial infarction measuring scores by using structured knowledge questionnaire and structured practice checklist.
- Video assisted teaching : It refers to giving 30 minutes education which was developed and administered by researcher regarding myocardial infarction and prevention of recurrence of myocardial infarction which includes heart healthy diet, exercise, medicine regimen, life style modification which contains quit smoking, limit alcohol, follow up, managing diabetes, hypertension and cholesterol, weight management, stress reduction, and general measures include work and sexual activity.
- Knowledge: It refers to the level of understanding about prevention of recurrence of myocardial infarction after coronary angioplasty measured by structured knowledge questionnaire through direct interview for pre-test and telephonic interview for post-test.
- Practice : It refers to the healthy life style activities followed by person in order to prevent recurrence of myocardial infarction after coronary angioplasty measured by structured practice checklist through direct interview for pre-test and telephone interview for post-test.
- Post coronary angioplasty patients : It refers to patients who underwent coronary angioplasty after myocardial infarction and taken for study on third day after coronary angioplasty.
- Prevention of recurrence of myocardial infarction: It refers to preventing myocardial infarction recurrence through video assisted teaching.

Materials and Method

Quantitative evaluative approach was adopted for the present study. Quasi experimental approach was used with randomly selected one group pre-test post-test design. The study was conducted at Jubilee Mission Medical College and Research Institute, Thrissur. 40 samples were selected using simple random sampling by lottery method. The investigator conduct the pretest by direct interview and post test by telephone interview.

Inclusion Criteria: Patients who had undergone coronary angioplasty

- On third day
- Within 30 –75 years of age
- Who diagnosed as myocardial infarction and had undergone angioplasty.
- Who understands Malayalam

Exclusion Criteria: Patients who had undergone coronary angioplasty.

- With visual and hearing impairment
- Who are mentally challenged
- Critically ill patients
- Not willing to participate.

Tools and techniques: The tools used in this study are sociodemographic data and clinical data questionnaire, structured knowledge questionnaire and structured practice checklist.

The structured knowledge questionnaire was constructed with 25 multiple choice questions under 5 sub-categories : general information regarding myocardial infarction (5 questions), diet (4 questions), exercise (4 questions), medication (4 questions) and lifestyle modification (8 questions). The scoring for each correct response was scored with one mark and the wrong answer scored with zero marks. The maximum score was 25 and minimum score was 0. The structured practice checklist is prepared with 15 practice questionsunder the subheadings :Diet (4 questions), Exercise (4 questions), Medication (2 questions) and Lifestyle modification (5 questions). Each correct practice was scored with one mark and the wrong practice was scored with zero marks. The maximum score was 15 and minimum score was 0. The grading of score was done as adequate (>80%), moderately adequate (50 –80 %) and inadequate (<50%). The ICVI score for sociodemographic and clinical data questionnaire, structures knowledge questionnaire and structured practice checklist were 0.9, 1 and 0.87 respectively. The reliability of the tool was tested using Guttman split half method. The reliability score obtained for structured knowledge questionnaire is 0.716 and for structured practice checklist is 0.842.

Intervention: The intervention provided was video assisted teaching regarding myocardial infarction and prevention of recurrence of myocardial infarction which includes heart healthy diet, exercise, medicine regimen, life style modification which contains quit smoking, limit alcohol, follow up, managing diabetes, hypertension and cholesterol, weight management,stress reduction, and general measures include work and sexual activity of duration 30 minutes.

Results

Section A: Socio-demographic and clinical data variables (n=40): Majority of the samples 33 (82.5%) were males. Most of the samples 16 (40%) belonged to age group 51 –60 years. About 31(77.5%) had secondary education or below. Majority of the samples 29 (72.5%) were living in semi-urban region. Among the samples 18 (45%) had no bad habits. Regarding comorbid condition, 16 (40%) samples not having any comorbidities, 42.5% were hypertensive, 30% were diabetic and 17.5% were dyslipidemia patients. Majority of samples 30 (75%) were not doing any exercise. Most of samples 14 (35%) got awareness about heart attack from health professional. Only 15 (37.5%) maintained ideal body weight. Majority of samples 22 (55%) were single vessel disease in coronary angiogram report and 14 (35%) of samples having triple vessel disease.

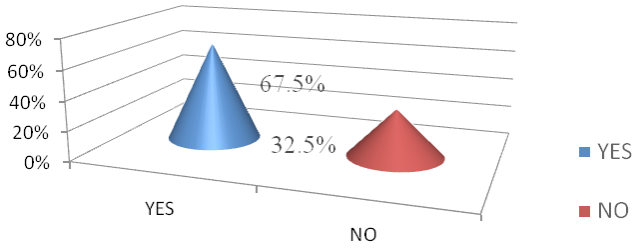

Figure 1: Percentage distribution of family history of cardiac and vascular diseases among patients who had undergone coronary angioplasty (n=40)

The figure 1 shows that majority (67.5%) of samples are having family history of cardiac and vascular diseases.

Section B: Assessment of knowledge and practice regarding prevention of recurrence of myocardial infarction (n= 40):

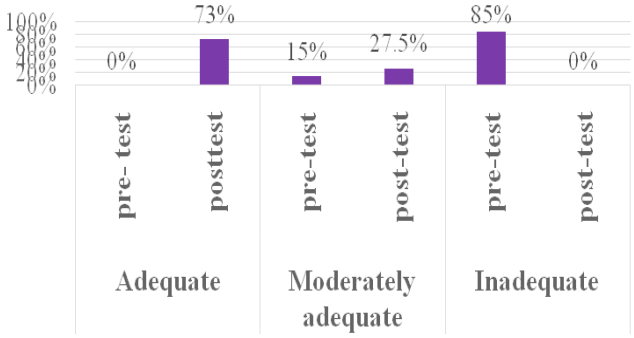

Figure 2: Level of knowledge of angioplasty patients before and after video assisted teaching regarding prevention of recurrence of myocardial infarction. (n=40)

The figure 2 shows that there is an increase in adequate knowledge regarding prevention of recurrence of myocardial infarction and none of samples having inadequate knowledge in post-test.

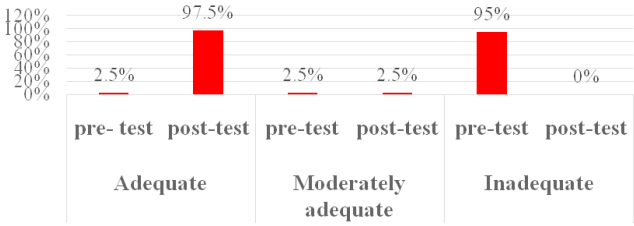

Figure 3: Level of practice of angioplasty patients before and after video assisted teaching regarding prevention of recurrence of myocardial infarction. (n=40)

The figure 3 shows that there is an increase in adequate practice regarding prevention of recurrence of myocardial infarction and none of the samples having inadequate practice in post-test.

Section C: Effect of video assisted teaching on knowledge and practice in prevention of recurrence of myocardial infarction: Wilcoxon signed rank test showed a highly significant ($p<0.001$) difference in the pre-test and post-test scores. The pre-test overall mean knowledge score was 8.05 ± 4.35 and it had increased to 21.13 ± 2.289 in the post-test. The pre-test overall mean practice score was 4.75 ± 2.048 and it had increased to 14.08 ± 0.829 in the post-test. The Z value for knowledge score and practice score were 5.51 and 5.55 respectively. This was statistically highly significant ($p <0.001$).

Table 1: Distribution of Mean, Median [Inter Quartile Range (IQR)], Standard Deviation (SD) and Z value of pre-test and post-test knowledge scores of angioplasty patients in prevention of recurrence of myocardial infarction. (n=40)

Components		Mean	Median (IQR)	SD	SE	Z value	p value
General information	Pre-test	1.8	2 (3 - 1)	1.224	0.193	5.278	<0.001***
	Post-test	4.28	4 (5 - 4)	0.716	0.113		
Diet	Pre-test	1.80	2(3 - 1)	1.114	0.176	5.425	<0.001***
	Post-test	3.88	4 (4 - 4)	0.335	0.053		
Exercise	Pre-test	1.63	2 (2 - 1)	0.807	0.128	5.537	<0.001***
	Post-test	3.48	3.5 (4 - 3)	0.554	0.088		
Medication	Pre-test	0.40	0 (0 - 0)	1.008	0.159	5.372	<0.001***
	Post-test	3.15	4 (4- 2.25)	1.122	0.177		
Lifestyle modification	Pre-test	2.48	2 (4 - 1)	1.710	0.270	5.407	<0.001***
	Post-test	6.55	7 (7 - 6)	1.716	0.186		
Overall	Pre test	8.05	7.5 (10 - 5)	4.35	0.688	5.517	<0.001***
	Post-test	21.13	7 (7 - 6)	2.289	0.362		

***Highly significant $p < 0.001$

The overall mean knowledge pre-test score 8.05 ± 4.35 increased to 21.13 ± 2.289 in the post-test. The Wilcoxon signed rank test is used to compare the knowledge pre-test and post-test scores is 5.557. It was statistically significant ($p <0.05$) in overall analysis.

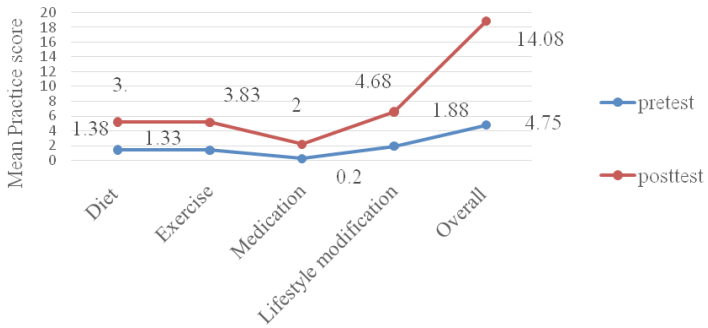

Figure 4: Domains of mean practice scores of angioplasty patients before and after video assisted teaching regarding prevention of recurrence of myocardial infarction. (n=40)

Figure 4 shows thatpost-test mean practice scores on prevention of recurrence of myocardial infarction are significantly higher than the mean pre-test practice scores.

Section 4 : Association between selected socio-demographic variables and clinical data variables with the pre-test level of knowledge and practice in prevention of recurrence of myocardial infarction: There was a significant association between habits, exercise duration with pre-test level of knowledge with a chi-square (χ^2) value 12.611 and 13.595 respectively and p value of habits, exercise duration with pre-test level of knowledge was 0.019 and 0.011 respectively. There was an association between education, occupation with the pre-test level of practice with chi-square (χ^2) value 25.965 (p = 0.012) and 14.737 (p= 0.017).

Discussion

The video assisted teaching improved the pre-test overall mean knowledge score 8.05 ± 4.35 to 21.13 ± 2.289 in the post-test. Similar study conducted by Shiji regarding effectiveness of video assisted teaching on knowledge regarding primodial prevention of cardiac diseases among high school teachers showed that mean pre-test knowledge score 15.23+3.04 was less than the post-test knowledge score 22.55+ 2.72[7].

Conclusion: This study implies that video assisted teaching was effective in improving level of knowledge and practice in prevention of recurrence of myocardial infarction among patients who had undergone coronary angioplasty. Video assisted teaching can be used as an educative tool for teaching the patients to prevent recurrence of myocardial infarction.

Conflict of Interest: No conflict of interest

Source of Funding: Self

Ethical Clearance: The ethical clearance was taken from the Institutional research and ethical committee, JMMC & RI, Thrissur on 18/06/18 with IEC study reference number: 12/18/IEC/JMMC & RI.

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A True Experimental Study to Assess the Effectiveness of Helfer Skin Tap Technique on the Level of Pain during Intramuscular Injection of Tetanus Toxoid among Antenatal Mothers in a selected Hospital of Delhi

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Abstract

A True experimental study was conducted to assess the effectiveness of Helfer skin tap technique on the level of pain during intramuscular injection of Tetanus Toxoid among Antenatal Mothers in a selected Hospital of Delhi and to find out the association between the level of pain experienced by Antenatal Mothers during intramuscular injection using Helfer skin tap technique and selected variables. A total of sixty sample were randomly assigned into 2 groups (30 in experimental group and 30 in control group)using simple random sampling technique. Structured interview schedule was used to collect the demographic characteristics and clinical health data. For the administration of intramuscular injection, Helfer skin tap technique was used for the experimental group and routine technique was used for the control group. Immediately after the administration, the post test pain score was obtained using Numeric pain rating scale. Findings revealed that the mean post test pain score and standard deviation of the experimental group was 1.13 ±1.11 whereas of the control group was 4.23±2.01. The calculated 't' test value 4.42 was found significant at $p \leq 0.05$. Significant association was found between the level of pain experienced by Antenatal Mothers during intramuscular injection with Helfer skin tap technique and selected variables such as religion and Body Mass Index but no association was found with other selected variables. The study results showed that Helfer skin tap technique was effective in reducing the level of pain during intramuscular injection.

Keyword: *Helfer Skin Tap Technique, Intramuscular Injection, Antenatal Mothers, Tetanus Toxoid,Level of pain.*

Introduction

Pain is a complex phenomenon, and its exact nature remains a mystery. A person in pain wants only one intervention-pain relief[1]. Margo McCaffery, one of the nursing's pain pioneers, defined pain as "whatever the experiencing person says it is and existing whenever the person says it does". The International Association for the Study of Pain (IASP) offers the accepted medical definition of pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage"[2].

According to WHO 2015 guidelines, every year at least 16 billion injections are administered worldwide. The vast majority –around 90% –are given in curative care. Immunization injections account for around 5% of all injections, with the remaining covering other indications, including transfusion of blood and blood products, intravenous administration of drugs and fluids and the administration of injectable contraceptives[3].

Ronald Melzack and Patrick Wall introduced their "gate control" theory of pain in the 1965 Science article "Pain Mechanisms: A New Theory". The authors proposed that both thin (pain) and large diameter (touch, pressure, vibration) nerve fibers carry information from the site of injury to two destinations in the dorsal horn of the spinal cord: transmission cells that carry the pain signal up to the brain, and inhibitory inter neurons that impede transmission cell activity. Activity in both thin

and large diameter fibers excites transmission cells. Thin fiber activity impedes the inhibitory cells (tending to allow the transmission cell to fire) and large diameter fiber activity excites the inhibitory cells (tending to inhibit transmission cell activity). So, the more large fiber (touch, pressure, vibration) activity relative to thin fiber activity at the inhibitory cell, the less pain is felt[4].

In 1998, Ms. Joanne Helfer made an attempt to alleviate pain due to intramuscular injection by developing 'Helfer Skin Tapping Technique' which involves tapping over the skin over the injection site[5]. S S, Kumari L.conducted an experimental studyto compare the pain level of neonates during intramuscular injection with and without the use of Helfer skin tap technique. True experimental post test control group design was used in the study. The study was conducted on 100 neonates (50 in experimental group and 50 in control group). The analysis revealed that in the experimental group, the post test mean value was 2.15 with standard deviation 2.01 and in control group the post test mean value was 5.7 with standard deviation 0.73. Results showed that Helfer skin tap technique was effective in reducing the intramuscular injection pain among neonates.

Problem Statement: A True Experimental Study to Assess the Effectiveness of Helfer Skin Tap Technique on the Level of Pain during Intramuscular Injection of Tetanus Toxoid among Antenatal Mothers in a selected Hospital of Delhi

Objectives:

1. To assess the level of pain experienced by Antenatal Mothersduring intramuscular injection using Helfer skin tap technique.
2. To assess the level of pain experienced by Antenatal Mothersduring intramuscular injection using routine technique.
3. To compare the level of pain experienced by Antenatal Mothersduring intramuscular injection using Helfer skin tap technique and routine technique.
4. To find out the association between the level of pain experienced by Antenatal Mothers during intramuscular injection using Helfer skin tap technique and selected variables.

Research Hypothesis:

H_1: There will be significant difference between the mean post test pain score during intramuscular injection using Helfer skin tap technique and mean post test pain score during intramuscular injection using routine technique among Antenatal Mothers at 0.05 level of significance.

H_2: There will be significant association between the level of pain experienced by Antenatal Mothers during intramuscular injection using Helfer skin tap technique and selected variables at 0.05 level of significance.

Operational Definitions:

- **Effectiveness:** In this study, effectiveness refers to the reduction in the level of pain experienced by Antenatal Mothers during intramuscular injection of Tetanus Toxoid using Helfer skin tap technique.
- **Helfer Skin tap technique:** In this study, it refers to a technique in which the investigator taps the deltoid muscle before the administration of intramuscular injection 16 times rhythmically with the palmar aspect of the dominant hand, then taps the deltoid muscle with palmar aspect of non-dominant hand 3 times counting 1, 2, 3 using the V tap (spreading the thumb and index finger) and insert the needle immediately after the 3rd count and continues to tap throughout the procedure.
- **Antenatal Mothers:** In this study, Antenatal Mothers refer to the pregnant mothers within the age group of 18-45 years receiving intramuscular injection of Tetanus Toxoid.
- **Intramuscular injection:** In this study, it refers to the administration of injection Tetanus Toxoid into the deltoid muscle.

Conceptual Framework: Ernestine Wiedenbach's helping art of Clinical Nursing theory (1964) is used as a conceptual framework for this study in a modified form.

The Theory mainly consists of 3 factors that indicate the nurse has a central purpose that helps direct the prescription for care within realities of a given situation. The 3 factors of theory can be explained as following:

- **Central purpose:** It refers to what the nurse want to accomplish through what she does. It is overall goal toward which a nurse strives. In the present study

the central purpose was to reduce the level of pain during intramuscular injection of Tetanus Toxoid among antental mothers.

- **Prescription:** It specifies the nature of the action that will fulfill the nurse's central purpose and rationale for that action. In the present study, the prescription was Helfer skin tap technique to reduce the level of pain during intramuscular injection.
- **Realities:** It refers to the physical, physiological, psychological, emotional and spiritual factors that come into play in a situation involving nursing actions. The 5 realities identified by Ernestine Wiedenbach were:
- **Agent:** The agent is the caregiver who has the personal attribute, capacities, competence and commitment to provide the nursing care. In the present study the investigator was the agent.
- **Recipient:** The recipient is the person for whom the action is taken. In the present study, Antenatal Mothers receiving intramuscular injection of Tetanus Toxoid were the recipient.
- **Goal:** It is the desired outcome the nurse wishes to achieve. The goal in the present study was to reduce the level of pain during intramuscular injection.
- **Means:** The means are activities that the nurse is empowered to achieve the goals. This includes specific skills, procedures or techniques. The means in the present study was Helfer skin tap technique.
- **Framework:** The framework consists of the human, environmental, professional, and organizational facilities. In the present study, antenatal clinic of selected Hospital of Delhi was considered as the framework.

The practice of nursing involves identification, ministration and validation.

- **Identification:** This involves determining the need for help. In the present study, the investigator has identified that there was a need to reduce the level of pain among Antenatal Mothers during intramuscular injection.
- **Ministration:** This refers to the provision of required help for the identified need. In the present study, the investigator administered the intramuscular injection in the experimental group using Helfer skin tap technique whereas in the control group using routine technique.
- **Validation:** This involves validating that the actions were helpful. In the present study, validation was done by assessing the level of pain immediately after the administration of intramuscular injection using Numeric Pain Rating Scale and evaluating the effectiveness of Helfer skin tap technique by analyzing the goal has been attained or not.

Material and Method

Quantitative approach and True experimental Posttest-only control group design was adopted for the study. Content validity of the tool was established by giving to experts. The reliability coefficient of the standardized tool (Numeric Pain Rating Scale) using Cronbach's alpha was 0.88. After obtaining the ethical clearance from the ethical committee of Holy Family Hospital, New Delhi, the pilot study was conducted on 8 Antenatal Mothers to find out the feasibility of conducting the final study. The findings of the pilot study revealed that it was feasible to conduct the study. After obtaining the ethical clearance from the ethical committee of St. Stephen's Hospital, Delhi, the final study was conducted at antenatal clinic of St. Stephen's Hospital, Delhi. A total of sixty sample were randomly assigned into 2 groups (30 in experimental group and 30 in control group) through simple random sampling technique using a chit method. Formal consent was obtained from the sample. Structured interview schedule was used to assess the selected variables (demographic characteristics such as age, educational status, religion and clinical health data such as number of dosage of Injection Tetanus Toxoid during pregnancy, previous experience of receiving Injection Tetanus Toxoid, number of previous delivery, Body Mass Index (BMI) categories) of the sample. The intramuscular injection of Tetanus Toxoid was administered into the deltoid muscle using Helfer skin tap technique in the experimental group and using routine technique in the control group. Immediately after the administration of intramuscular injection, the post test pain score of the experimental group as well as of the control group was obtained using the Numeric Pain Rating Scale.

Findings: Findings revealed that in the experimental group, majority of the sample 20 (66.66%) were in the age group of 25-31 years, 26 (86.66%) have completed graduation and above, 22 (73.33%) were Hindu, 18 (60%) were receiving 2nd dose of Injection Tetanus Toxoid, 24 (80%) already had an experience of receiving

Injection Tetanus Toxoid, 14 (46.66%) had one experience of delivery and 10 (33.3%) had BMI between 18.5-24.9 (Normal).In the control group, majority of the sample 21 (70%) were in the age group of 25-31 years, 25 (83.33%) have completed graduation and above, 20 (66.66%) were Hindu, 17 (56.66%) were receiving 2nd dose of Injection Tetanus Toxoid, 24 (80%) already had an experience of receiving Injection Tetanus Toxoid, 13 (43.33%) sample did not have an experience of previous delivery in the past, 13 (43.33%) had one experience of delivery in the past and 11 (36.6%) had BMI between 25-29.9 (overweight).

Table 1: Frequency and percentage distribution of level of pain during intramuscular injection in experimental group and control group n=60

Level of pain	Experimental group (n_1=30)		Control group (n_2=30)	
	f	%	f	%
None	10	33.33	0	0
Mild	18	60	09	30
Moderate	02	6.66	15	50
Severe	0	0	06	20

Data represented in Table 1 reveals that majority of the sample in the experimental group 18 (60%) perceived mild pain, 10 (33.33%) perceived no pain and least 02 (6.66%) perceived moderate pain during intramuscular injection using Helfer skin tap technique, whereas none of the sample experienced severe pain. Majority of the sample in the control group 15 (50%) perceived moderate pain, 09 (30%) perceived mild pain and 06 (20%) perceived severe pain during intramuscular injection using routine technique whereas none of the sample experienced no pain.

Table 2: Mean, Mean Difference, Standard Deviation, Standard error of mean difference and 't' value of post test pain score of experimental group and control group during intramuscular injection n=60

Group	Mean	Mean difference	Standard deviation	Standard error of mean difference	't' value
Experimental (n_1=30)	1.13	3.1	1.11	0.70	4.42*
Control (n_2=30)	4.23		2.01		

t (58)=2.00, *- Significant at $p \leq 0.05$

Data represented in Table 2 shows that the mean post test pain score of the experimental group was 1.13 and the mean post test pain score of the control group was 4.23. The calculated 't' value of 4.42 was greater than the table 't' value 2.000 at $p \leq 0.05$. Hence, the research Hypothesis H_1 was accepted. Results indicated that Helfer skin tap technique was effective in reducing the level of pain during intramuscular Injection among antenatal mothers.

Significant association was found between the level of pain experienced by Antenatal Mothers during intramuscular injection with Helfer skin tap technique in the experimental group and selected variables such as religion and BMI as the calculated Fisher's exact test value was significant at $p \leq 0.05$ but no association was found with other selected variables.

Discussion

The present study found that in the experimental group, majority of the sample 18 (60%) perceived mild pain, 10 (33.33%) perceived no pain, 02 (6.66%) perceived moderate pain and none of the sample experienced severe painduring intramuscular injection using Helfer skin tap technique, whereas in the control group, majority of the sample 15 (50%) perceived moderate pain, 09 (30%) perceived mild pain, 06

(20%) perceived severe pain and none of the sample experienced no pain during intramuscular injection with routine technique. These finding were similar to the study findings of Cherian AT.[7] who reported that out of 40 sample, majority 33 (82.55%) reported mild pain, 5 (12.5 %) reported no pain and 2 (5%) reported moderate pain after receiving intramuscular injection with rhythmic skin tapping whereas majority of the sample 25 (62.5%) reported mild pain and 15 (37.5%) reported moderate pain after receiving intramuscular injection without rhythmic skin tapping.

Conclusion

The findings of the study proved that Helfer skin tap technique was effective than routine technique in reducing the level of pain during intramuscular injection of Tetanus Toxoid among Antenatal Mothers and it can be implemented as a useful measure to reduce the pain related to administration of intramuscular injections.

Ethical Clearance: Taken from Ethical committee of Holy Family Hospital, New Delhi and St. Stephen's Hospital, Delhi.

Source of Funding: Self

Conflict of Interest: None

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A Study to Assess the Effectiveness of Acute Coronary Syndrome Algorithm on Nursing Management of Patient with Acute Coronary Syndrome among Staff Nurse of Selected Hospital Waghodia

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Abstract

Background: In the Asia for more than 4.2 billion populations is suffer with the ACS. Acute coronary syndrome (ACS) is now a major cause of death in the hospital the mortality is more than 5%.[1] So it is important to enhance the knowledge and practice regarding ACS algorithm among staff nurses.

Method: Qualitative research approach with pre- experimental one group pre-test and post-test design with non-probability convenience sampling was used to collect the 70 samples. A structured knowledge questionnaires and Practice checklist was prepared to assess the knowledge and practice of staff nurses.

Result: With regards to the pre-test assessment the score of 24(34%) subject was having moderate level of knowledge and 46(66%) subjects were having inadequate knowledge while in post-test 5(7%) of subject having moderate level of knowledge and 65(93%) subject having adequate level of knowledge The obtained pre-test mean score was 7.14 and post- test mean score was 15.24 the mean difference of the pre-test and post- test is 8.10 which shows the improvement in the level of knowledge among subjects, The pre-test SD was 1.35 and post- test SD 1.33 The obtained pair "t" test value 33.270, df=69 significant at 0.05 level. Whereas the pre-test score of practice shows 23(32.85%) subjects had inadequate practice and 47(67.14%) subjects had moderate practice, the post test data revels that 24(34.28%) subjects were had moderate practice and 46(65.71%) subjects had adequate practice towards ACS. The obtained pair "t" test value 27.790, df=69 shows significant at 0.05 level. It indicates that there was increased in the level of knowledge and improves practice towards acute coronary syndrome after providing nursing care algorithm. So that H_1 research hypothesis accepted. The pre-test practice score had not significant association all demographic variable so H_2 research hypothesis was rejected.

Conclusion: The findings of the study concluded that majority of subjects had inadequate level of knowledge and adequate practice. The nursing care ACS algorithm was effective among staff nurses in improving knowledge (t (69) = 33.270) and practice (t (69) = 27.790) significant at 0.05 level regarding acute coronary syndrome.

Keywords: *Acute coronary syndrome, impact, knowledge, nursing care algorithm.*

Introduction

The heart muscle, like every other organ or tissue in your body, needs oxygen-rich blood to survive. Blood is supplied to the heart by its own vascular system, called coronary circulation.[2] Acute coronary syndrome (ACS) is a syndrome due to decreased blood flow in the coronary arteries that's part of the heart muscleis unable to function properly ordies. The most common symptoms of acute coronary syndrome are chest pain, often radiating to the left shoulder or angle of the jaw, crushing, with nausea and sweating.[3] More than 4.2 billion inhabitants populate the Asia-Pacific region. Acute coronary syndrome (ACS) is now a

major cause of death and disability in this region with in-hospital mortality typically exceeding 5%.[1] ACLS provider will 12 lead ECG reading skill. for them this case summarized the identification and management of patient with STEMI.[4]

Acute coronary syndrome (ACS) refers to a spectrum of clinical presentations ranging from those for ST segment elevation myocardial infarction (STEMI) to presentations found in non–ST-segment elevation myocardial infarction (NSTEMI) or in unstable angina.[5] The patient usually has a number of tests in the emergency department, such as achest X-ray,blood tests (including myocardial markerssuch astroponin I or T,) Combination of troponin levels (less than 5 ng/l) with low TIMIscores can to predict those with low possibility of myocardial infarction and discharge them safely from the emergency department. [6]

After STEMI has been identified, the most appropriate strategy for reperfusion should be determined quickly. Reperfusion therapy should be administered to eligible patients with STEMI and symptom onset within the previous 12 hours summarizes the elements involved in developing a treatment strategy for patients with STEMI.[7] If the ECG does not show typical changes, the term "Non-ST segment elevation ACS" is applied. The patient may still have suffered a "non-ST elevation MI" (NSTEMI). The accepted management of unstable angina and acute coronary syndrome is therefore empirical treatment with aspirin, a second platelet inhibitor such asclopidogrel, prasugrelorticagrelor, andheparin (usually alow-molecular weight heparin), with intravenousnitroglycerineandopioids if the pain persists. The heparin-like drug known asfondaparinuxappears to be better thanenoxaparin.[8]

Need for the Study: This is supported by a study conducted in USA about the treatment guidelines for the nurse practitioners on non ST segment elevation acute coronary syndrome. The purpose of the study was to increase the awareness among nurse practitioners. Findings showed that familiarity with the patient as well as current management recommendations can improve clinical outcomes for patients with unstable angina and non ST elevation myocardial infarction.[9]

This ACLS Algorithm is the steps for proper management of patients experiencing Acute Coronary Syndromes (ACS). ACS represents a spectrum of clinical symptoms compatible with acute myocardial ischemia and includes unstable angina, non-ST segment myocardial infraction (NSTEMI), and ST-segment elevation myocardial infraction (STEMI). The ACS algorithm should be followed when patient is showing signs of infraction or ischemia. There are a number of classic symptoms that suggest ACS, including Chest pain or pressure, Shortness of breath, Nausea Diaphoresis, Weakness, Palpitation, Neck or jaw pain,Pain radiating to the shoulders or down the arms, Unexplained fatigue, The primary goals of ACS treatment are: Early recognition of ACS and STEMI Triage for early reperfusion therapy Treatment to relieve ischemia control of major adverse cardiac outcomes (MACE) Treatment of acute, life threatening complications, such as VF/pulseless VT, symptomatic bradycardias, and unstable tachycardia.[10]

Material Methodology

Research design: Pre experimental one group pre-test post-test research design

Setting: Dhiraj Hospital, Piparia, Waghodiya Vadodara.

Sample size: Comprise of 70 staff nurses belongs to Dhiraj Hospital

Inclusion criteria:

- Staff nurses working in Dhiraj hospital.
- Staff nurses with G.N.M., B.Sc. or PB B.Sc. qualification.
- Staff nurses who are present at the time of study.

Exclusion criteria for sampling:

- A.N.M, & M.Sc. Nursing staff are excluded.

Tool for data collection

This consist of three parts:

Section 1: Demographic variables such as gender, age, education qualification and Professional experience.

Section 2: Self-designed questionnaire will be used to assess the knowledge regarding ACS Algorithm:

Scoring interpretation:

Inadequate: 0-7

adequate: 8 –14

Excellent: 15–20

Section 3: Practice check list will be used.

Inadequate: 0-4,

Adequate : 5- 7

Excellent : 8–10

Reliability: The reliability of tool established by using split half method Spearman Brown Prophecy formula (r = 0.75) reliability test.

Data Collection Procedure: The formal permission was obtained for the approval of the study from Dhiraj Hospital, Piparia, Waghodia, Vadodara. The data collection done within a given period of 2 weeks. The investigator selected the subject and established the rapport by explaining purpose of the study, the co-operation required and the anonymity assured before obtaining verbal consent. Initially the demographic tool, self -structured questionnaire and checklist administered to the sample to know existing level of knowledge regarding ACS algorithm, then the Algorithm was given to the samples of the study. After 7 days post -test was administered to assess the effectiveness of the ACS algorithm among staff nurses.

Statistical Design: Data were verified prior to computerized entry. The Statistical Package for Social Sciences (SPSS version 20.0) was used. Descriptive statistics were applied (e.g., mean, standard deviation, frequency and percentages). Test of significance (chi square and paired t test) was applied to test the study hypothesis.

Findings: Section A: Description of sample according to their demographic variable: 84% of staff nurses were in the age group of 21-25 years,14%were in the group of 25-30 year and 2% were in the group of 30-35 years.

Highest 60 percentage of female staff nurses and 40 percentage of male staff nurses.

Maximum Staff nurses 65.71%belong from B.Sc. nursing,(28.57%) staff nurses belong from G.N.M. and (5.71%) belong from PB. BSc. nurses.

Majority were having (85.71%) in the range of 0-2-year professional experience, (10%) in the range of 2-4-year professional experience, (1.42%) in the range of 4-6-year professional experience and (2.85%) in the range of >6-year professional experience.

Section B: Analysis of pre-test and post test score of knowledge and practice Regarding ACS Algorithm.

Table 1: Distribution of pretest and posttest knowledge score according to the percentage n =70

Sr. No.	Knowledge level	Percentage	Pre-test	Post–test
1	Inadequate	< 35%	65.71%	00%
2	Adequate	35-70%	34.28%	7.14%
3	Excellent	>70%	00%	92.85
Total			100%	100%

Table 2: Distribution of pre-test and post -test practice score of staff nurses regarding practice checklist n=70

Sr. No.	Practice level	Percentage	Pre -test	Post –test
1	Inadequate	< 40	67.14%	00%
2	Adequate	40-70%	32.85%	34.28%
3	Excellent	>70%	00%	65.71%
Total			**100%**	**100%**

Section C: Effectiveness of Standard operating procedure:

Table 3: Comparison of pre-test and post-test knowledge score of staff nurses n=70

Variable	Pre test	Mean	Mean Difference	Std. Deviation	t- Value
Knowledge regarding ACS algorithm	Pre-test	7.142857	8.100003	1.354389	33.270
	Post-Test	15.24286		1.333446	

* Significant at 0.05 level, *t (0.05, 89df)

Table 4: Comparison of pre-test and post-test practice score of staff nurses

Variable		Mean	Mean Difference	Std. Deviation	t- Value
Practice regarding ACS algorithm	Pre-test	4.0286	3.638	.83356	27.790
	Post-Test	7.6666		.81446	

* Significant at 0.05 level *t (0.05, 89df)

Section D: Association between pre-test knowledge and practice score with socio demographic variables:

Association between pre-test knowledge score and socio-demographic variables: These data reveals that association between knowledge of staff nurses and demographic variable. There is no any significant demographic variable. So Hence, research hypothesis H_2 was not accepted.

Association between pre-test score of practice and socio- demographic variables: This data reveals the association between practice of ACS Algorithm and demographic variable. Significant demographic variable is age of staff nurses, with χ^2 value 2.93a (2df=2.91). for this variable hypothesis is accepted. The non-significant demographic variableis gender, education qualification and qualification experience. So, for this variable the research hypothesis H_2 rejected. Hence, research hypothesis H_2 is rejected.

Discussion

The aim of the study was conducted to evaluate the effectiveness of ACS algorithm on knowledge and practice regarding acute coronary syndrome among staff nurses. It was found staff nurses had inadequate knowledge and practice regarding acute coronary syndrome and ACS algorithm is effective to improve the knowledge and bring a good practice towards acute coronary syndrome.

The same study was conducted at Iran in 2016 on effectiveness of scenario–based education the performance of staff nurses in critical care unit for patients with acute coronary syndrome. The semi-empirical method was used. The researcher concluded that scenario based learning can have significant influence and enhancing knowledge and performance of nurses about their treatment with patient suffering from acute coronary syndrome.[11]

Conclusion

The analysis reveals that the total mean of post-test knowledge and practice score was observed to be significantly higher than the total mean of pretest knowledge and practice score after providing ACS algorithm to the staff nurses regarding acute coronary syndrome. Hence, it is concluded that the ACS algorithm was effective to increase the knowledge regarding the ideal care of ACS patient among staff nurses. Education regarding acute coronary syndrome should be given to all staff nurses to improve their knowledge and practice of procedure which may aid in reducing rate of death patient with acute coronary syndrome.

Conflict of Interest: The authors declare that there is no conflict of interest statement.

Source of Funding: Fund for this research is researcher own.

Ethical Clearance: Ethical Clearance for this dissertation was obtained from the ethical committee SVIEC of Sumandeep Vidyapeeth University.

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A Study to Assess the Effectiveness of SOP on Knowledge and Practice Regarding Nursing Management of Patient During Hemodialysis Procedure among Staff Nurses of Dhiraj Hospital, Vadodara

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Abstract

Background: Chronic kidney disease affected 753 million people globally in 2016, including 417 million females and 336 million males.[1] So it is important to enhance the knowledge and practice regarding nursing management of patient during hemodialysis among staff nurses.

Method: Quantitative research approach with pre-experimental one group pre-test and post-test design was adopted and sample was selected by using non-probability convenience sampling technique which consists of 90 samples. Aself-structured knowledge questionnaires and practice checklist was prepared to assess the knowledge and practice of staff nurses.

Result: With regards to the pre-test knowledge, the score of 19 (21.1%) staff nurses had adequate level of knowledge and 71(78.9%) had inadequate knowledge, while in post-test 80(88.9%) had excellent knowledge, 4(4.4%)had inadequate level of knowledge and 6(6.7%) of them had adequate knowledge. The obtained pre-test mean score was 8.61 and after providing SOP it increased to 13.83, the mean difference of the pre-test and post-test was 5.22. The standard deviation (SD) of pre-test & post-test was 35.99 & 18.8. The obtained paired "t" test value was 43.57, significant at 0.05 level. Whereas the pre-test score of practice shown 51 (56.67%) had inadequate practice and 39 (43.33%) had adequate practice, the post-test data reveals that 80 (88.9%) had excellent score towards practice. The obtained pre-test practice of mean score was 8.68 and post-test of practice mean score was 13.88 of staff nurses. The mean difference of the pre test and post test of practice score was 5.2 the pre-test SD of practice score was 0.89 and post-test SD 0.79 the obtained paired 't' test value 45.11, shows significant at 0.05 level. It indicates that there was increased in the level of knowledge and practice towards nursing management of patient during hemodialys is after providing SOP.

Conclusion: The findings of the study concluded that majority of staff nurses were having inadequate level of knowledge and average practice. The SOP was effective among staff nurses in improving knowledge (t (89) = 43.57) and practice score (t (89) =45.11) significant at 0.05 level regarding nursing management of patient during hemodialysis.

Keywords: *Effectiveness, SOP, Knowledge, Practice, Staff nurses, nursing management of patient during hemodialysis.*

Introduction

Kidney is an important organ of our body. The primary function of the kidney is to regulate the volume and composition of extra cellular fluid (ECF) and excrete waste products. It helps in maintaining the body in a healthy state. End stage renal disease (ESRD) is a slow progressive, irreversible distruction of functional unit of kidney caused by inherited disorder, prolonged medical condition such as diabetic mellitus and hypertension or long term use of certain medication.[2]

Chronic kidney disease (CKD) is a type of kidney disease in which there is gradual loss of kidney function

over a period of months or years. Early on there are typically no symptoms. Later, leg swelling, feeling tired, vomiting, loss of appetite, or confusion may develop. Complications may include heart disease, high blood pressure, bone disease, or anemia[3].

Kidney transplantation and hemodialysis are the only choices of treatment for ESRD and CKD patients. Transplantation is a good choice as it can relive the patient's entire problem with ESRD, but it is not possible for every patient due to the shortage of suitable donors, increased incidence of organ transplant rejection, age and ill health of many ESRD patients. Hence, most of the patient prefer and have to depend on hemodialysis for survival. Hemodialysis is the procedure to remove waste and excess fluid from the blood when the kidney cannot do so sufficiently through the process of diffusion, osmosis and ultrafiltration using external dialyser. Studies have revealed that, about one million people are undergoing hemodialysis worldwide. In hemodialysis patient there may be a chance for developing complications.[4]

Need for the study: Kidney failure is the last stage of long-term (chronic) kidney disease. This is when your kidneys can no longer support your body's needs. Usually, you will go on dialysis when you have only 10% to 15% of your kidney function left. You also may need dialysis if your kidneys suddenly stop working due to acute renal failure.[5]

Hemodialysis is a prolonged procedure lasting for 3-5 hours. According to a research study, the acute complications commonly occur during routine hemodialysis treatments include, hypotension (25 to 55%); cramps (5 to 20%); nausea and vomiting (5 to 15%); headache (5%); chest pain (2 to 5%); back pain (2 to 5%); itching (5%); fever and chills (Less than 1%).[6]

Your kidneys' main job is to remove toxins and extra fluid from your blood. If waste products build up in your body, it can be dangerous and even cause death. Hemodialysis (and other types of dialysis) does some of the job of the kidneys when they stop working well Hemodialysis can: Remove extra salt, water, and waste products so they don't build up in your body, keep safe levels of minerals and vitamins in your body, Help control blood pressure, Help produce red blood cells. During hemodialysis, your blood passes through a tube into an artificial kidney or filter. The filter, called a dialyzer, is divided into 2 parts separated by a thin wall, As your blood passes through one part of the filter, special fluid in the other part draws out waste from your blood, Your blood then goes back into your body through a tube. Your doctor will create an access where the tube attaches. Usually, an access will be in a blood vessel in your arm.[7]

Material Methodology

Research design: Pre experimental one group pre-test post-test research design

Setting: Dhiraj Hospital, Piparia, Waghodiya Vadodara.

Sample size: 90 staff nurses.

Inclusion criteria:

- Staff nurses with G.N.M., B.Sc. or PB B.Sc. qualification.
- Staff nurses who are present at the time of study.

Exclusion criteria for sampling:

- A.N.M, & M.Sc. Nursing staffs

Tool for data collection: This tool consists of three sections:

Section 1: Demographic variables such as gender, age, education, qualification and area of working.

Section 2: Self structured knowledge questionnaire was used to assess the knowledge regarding nursing management of patient during hemodialysis.

Section 3: Self designed practice check list was used.

Reliability: The reliability of tool established by using split half method Spearman Brown Prophecy formula (r=0.75) reliability test.

Data collection procedure: The formal permission was obtained for the approval of the study from Dhiraj hospital to conduct study from 10th to 17th January 2019. The Data Collection done within a given period of 1 week. The investigator selected 90 staff nurses the inclusion criteria for data collection by using non-probability convenient sampling. The investigator selected the subject and established the rapport by explaining purpose of the study, the co-operation required and the anonymity assured before obtaining verbal consent.

Initially the demographic tool, self structured questionnaire, administered to the sample to know existing level of knowledge regarding nursing management of patient during hemodialysis then the was given to the samples of the study. After 7 days post-test was administered to assess the effectiveness of the SOP among staff nurses.

Statistical Design: Data were verified prior to computerized entry. The Statistical Package for Social Sciences (SPSS version 20.0) was used. Descriptive statistics were applied (e.g., mean, standard deviation, frequency and percentages). Test of significance (Chi square and paired t test) was applied to test the study hypothesis.

Findings:

Section A: Description of sample according to their demographic variable: Age of (50%) staff nurses were in the age group of 21-25 years while remaining (50%) are from the age group of 26-30 years.

The highest percentages (95.6%) of staff nurses were female while only (4.4%) are male staff.

Maximum (64.4%) of staff nurses belongs from the B.Sc Nursing and (35.6%) of staff nurses belongs from the G.N.M.

Majority were having (65.6%) 0-2 year qualification experience, while (34.4%) staff nurses were having 3-4 year qualification experience.

Majority (44.4%) were working in a critical area, (23.3%) were working in a Gynec and obstetric ward, (18.9%) were working in a Surgical ward, and (13.3%) were working in a Medical ward.

Section B: Analysis of pre-test and post test score of knowledge and practice Regarding nursing management of patient during hemodialysis.

Table 1: Distribution of pretest and post-test knowledge score according to the percentage n=90

Sr. No.	Categories of knowledge score	Percentage	Pre test	Post test
1	Inadequate	<33%	78.9%	4.4%
2	Adequate	34-66%	21.1%	6.7%
3	Excellent	>67%	0%	88.9%

Table 2: Distribution of pre-test and post -test practice score of staff nurses regarding practice checklist n=90

Sr. No.	Categories of practice	Percentage	Pre test	Post test
1	Inadequate	<33%	56.7%	6.7%
2	Adequate	34-66%	43.3%	4.4%
3	Excellent	>67 %	0%	88.9%

Section C: Effectiveness of Standard operating procedure:

Table 3: Comparison of pre-test and post-test knowledge score of staff nurses n=90

Variable	Pre test	Mean	Mean Difference	Std. Deviation	t-Value
Knowledge regarding nursing management of patient during hemodialysis	Pre-test	8.61	5.22	35.99	43.57
	Post-Test	13.83		18.8	

* Significant at 0.05 level, *t (0.05, 89df) =1.98

Table 4: Comparison of pre-test and post-test practice score of staff nurses. n=90

Variable		Mean	Mean Difference	Std. Deviation	t- Value
Practice score regarding nursing management of patient during hemodialysis	Pre-test	8.68	5.2	0.89	45.11
	Post-Test	13.88		0.75	

* Significant at 0.05 level, *t (0.05, 89df)=1.98

Section D: Association between pre-test knowledge and practice score with socio demographic variables.

Association between pre-test knowledge score and socio-demographic variables: These data reveals that association between knowledge of staff nurses and demographic variable. There is no any significant demographic variable. So Hence, research hypothesis H_2 was not accepted.

Association between pre-test score of practice and socio- demographic variables: Socio-demographic variable are education qualification of staff nurses, with χ^2 value 4.00(1df=3.84), qualification experience of staff nurses with χ^2 value 7.05 (1df= 3.84) so, for this variable hypothesis is accepted. The non significant demographic variable is age, gender, education, clinical experience, and working of area. The association between practice score of staff nurses and demographic variable which of significant are age of staff nurses, with χ^2 value 4.07 (1df=3.84), gender of staff nurses with χ^2 value 5.73(1 df= 3.84), education qualification of staff nurses with χ^2 value 8.80(1 df=3.84) and qualification experience of staff nurses with χ^2 value 4.92(1 df= 3.84) for this variable hypothesis is accepted. The non significant demographic variable is working area of nurses. Hence, Hypothesis H_2 is partially accepted.

Discussion

The purpose of the study is to evaluate the effectiveness of the SOP on staff nurses. The findings of the study concluded that majority of staff nurses had inadequate level of knowledge and average practice. The SOP was effective among staff nurses in improving knowledge (t (89) = 43.57) and practice score (t (89) =45.11) significant at 0.05 level regarding nursing management of patient during hemodialysis.

The same study was conducted by, ebrahim a.a, al-mawsheki, m.sc.et.all "Nurses' Knowledge and Practice Regarding Care for the Patients during Hemodialysis" descriptive exploratory design was used in this study. The study included 50 nurses. The findings of the indicated that the majority of studied nurse 90% had satisfactory level of total knowledge about hemodialysis, while 44% of studied nurse had unsatisfactory level of practice regarding care for the patient during hemodialysis. There was no significant correlation between practice score and total knowledge score.[8]

Conclusion

This study was undertaken to assess the effectiveness of SOP regarding nursing management of patient during hemodialysis, the study involves one group pre-test post-test pre experimental research design with non probability purposive sampling technique, 90 samples of staff nurses were selected on the basis of inclusion and exclusion criteria. Analysis of obtained data was planned based on the objectives and hypothesis of the study, both descriptive and inferential statistics were used for the analysis of the data. The data is interpreted in the forms of tables and graphs.

Conflict of Interest: The authors declare that there is no conflict of interest statement.

Source of Funding: Fund for this research is researcher own.

Ethical Clearance: Ethical Clearance for this dissertation was obtained from the ethical committee SVIEC of Sumandeep Vidyapeeth.

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Assessment of Obstetric and Foetal Outcome among Unbooked Mothers at Alqassimi Womens and Children Hospital, Sharjah

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Abstract

A retrospective study was been undertaken to determine the obstetrical and fetal outcome among unbooked mother's in a teritiary referral hospital. This study is to rule out the fetal and obstetrical outcome such as asphyxia, abruptio placenta; etc .

A quantitative research approach is used. The data were been collected using electronic medical record of the unbooked population and analyzed by using descriptive statistics. Among 100 unbooked 74% are from Sharjah and 25% from Ajman. 82% are anemic. These few complications out of the vast leads on to life threatening situations. The Primary Health Center accessibility towards these vulnerable population have to be drastically improved that indirectly graphs up the maternal and fetal health.

Keyword: *Fetal outcome, maternal outcome, unbooked mothers.*

Introduction

[2]Antenatal care plays a crucial part in the maternal and fetal wellbeing and the obstetrical outcome as well. The fulfilment of antenatal visits ensures a better labour outcome.[3] The World Health Organization has issued a new series of recommendations to improve quality of antenatal care to reduce the risk of stillbirths and pregnancy complications and give women a positive pregnancy experience.[4] By focusing on a positive pregnancy experience, these new guidelines seek to ensure not only a health pregnancy for mother and baby, but also an effective transition to positive labour and childbirth and ultimately to a positive experience of motherhood.

[1]Research reveals that unbooked patients end up with unfavorable maternal and fetal outcomes: JT Muthir, YA Nytiputen (2007; October), conducted a study to determine the incidence of maternal and perinatal outcome among unbooked patients and the associated pathologies. Emphasizing benefits of the antenatal visits that eradicates and controls the unfavorable conditions. Resolution of the above situation requires Collaborative interdisciplinary approach among the teritiary care facility and the community centers.

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Materials and Method

This was a retrospective study of unbooked patients managed at Al Qassimi Women's and Children's hospital, Sharjah. Over a period of 10 months since the commencement of the facility, through convenience sampling approach 100 patients were been selected from the vast unbooked populations. Data collection was done after obtaining ethical clearance from the research ethical committee.

The electronic medical records of all mothers who had no forms of antenatal care and free from police case but, delivered in Alqassimi women's and children's hospital were collated and evaluated.

The following information were collected; age, gestation, nationality, occupation, mode of delivery, anemia status and fetal characteristics such as diagnosis during the presentation, birth weight, condition after delivery. The data collected were entered into SPSS computer software and analyses.

Result

In this section, statistical analysis and interpretation of collected data were organized under two sections.

Section I: Maternal characteristics:

Table 1: Parity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Para1	13	12.9	13.0	13.0
	2-4	58	57.4	58.0	71.0
	More than 4	29	28.7	29.0	100.0
	Total	100	99.0	100.0	
Missing	System	1	1.0		
Total		**101**	**100.0**		

Table 2: Gestation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 37	11	10.9	11.0	11.0
	37 to 42	78	77.2	78.0	89.0
	More than43	11	10.9	11.0	100.0
	Total	100	99.0	100.0	
Missing	System	1	1.0		
Total		**101**	**100.0**		

Table 3: Anemia

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	lessthan or =10	82	81.2	82.0	82.0
	more then10	18	17.8	18.0	100.0
	Total	100	99.0	100.0	
Missing	System	1	1.0		
Total		**101**	**100.0**		

Section II: Fetal Characteristics:

Table 4: Diagnosis During Delivery

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal	20	19.8	20.0	20.0
	Preterm	41	40.6	41.0	61.0
	Fetal Death	2	2.0	2.0	63.0
	Preeclamsia	13	12.9	13.0	76.0
	Abruptio	5	5.0	5.0	81.0
	Car Delivery	16	15.8	16.0	97.0
	Prolong Labour	3	3.0	3.0	100.0
	Total	100	99.0	100.0	
Missing	System	1	1.0		
Total		**101**	**100.0**		

Table 5: Fetal condition

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Severe Asphyxia	5	5.0	5.0	5.0
	Moderate Asphyxia	33	32.7	33.0	38.0
	Mild Asphyxia	43	42.6	43.0	81.0
	None	19	18.8	19.0	100.0
	Total	100	99.0	100.0	
Missing	System	1	1.0		
Total		**101**	**100.0**		

Table 6: Fetal weight

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Low Weight 1500	1	1.0	1.0	1.0
	Low Birth Weight 1500-2499	27	26.7	27.0	28.0
	Normal Birth Weight 2500-3999	53	52.5	53.0	81.0
	Macrosomial More Than 4000	19	18.8	19.0	100.0
	Total	100	99.0	100.0	
Missing	System	1	1.0		
Total		**101**	**100.0**		

The majority patients are from Sharjah 74%. 60% of their mode of delivery was cesarean due to many reasons for instance; placenta previa, maternal diabetes leading to macrosomal baby, pre-eclampsia, ect. 82% are with low hemoglobin level which in a situation of postpartum hemorrhage leads to shock.

The table shows 81% of fetus were born with mild, moderate and severe asphyxia and 5% severe. 41% preterm labor. It's evident from the above characteristic that the percentage of complication is high.

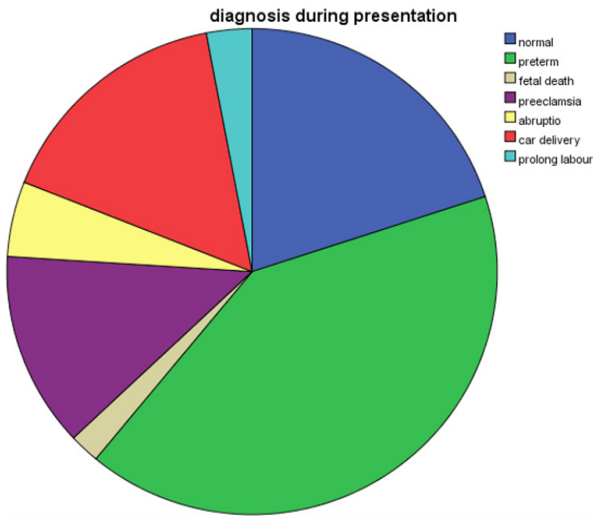

Figure 1: Diagnosis during presentation (fetal characteristic)

Conclusion

The antenatal care and knowledge gained during antenatal visits plays a vital role in the optimal maternal and fetal health. Appropriate visits especially prevents and controls the pregnancy related illness for instance gestational diabetes and hypertension it parallelly prevents fetal demises. This research creates an awareness among maternal population by indirectly exploring the reason behind the un-booked case and finally correlation between the institution and the PHC to create awareness among the maternal population. This finding brews a path towards the fore coming women's campaign to concentrate on those population.

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Job Satisfaction among Nurses Working at Primary Health Center in Ras Al Khaimah, United States Emirates

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Abstract

A descriptive study was undertaken to explore the job satisfaction level among nurses and the factors associated,among public health nurses working in RAK, UAE. A quantitative research approach has been used .The data was collected using four sections of questionnaire-demographic variable, measures of job satisfaction, extrinsic and intrinsic factors. The data was analyzed using descriptive (mean and standard deviation) and inferential statistics (Pearson correlation). The intrinsic factors associated with the nurse's satisfaction were regular promotions (0.45,95%),professional autonomy and advancement opportunities. Intrinsic factors associated with decrease in job satisfaction were work load, disruption in social life. Extrinsic factor that cause job satisfaction is group cohesion, respect from the management and regular feedback (0.52, 95%), However not being paid fairly was the major reason for dissatisfaction. The finding of the research may help the policy makers and practice leaders to set plans and policies for retention and increase in nurse's job satisfaction.

Keywords: *Nurses job satisfaction; shortage of nurses; turnover; intrinsic factors; extrinsic factors*

Introduction

The main goal of any health care system is to deliver best quality and effective healthcare services to its consumers. Quality assurance in health includes all the actions taken to promote and enhance health care (L.You et al., 2013)[1].

Human resources are an integral part of any health care delivery system; therefore, it is important to not only add new resources to the system but also to make the best use of available resources. Job satisfaction is a significant component of every organization and it aims at the physical and mental well-being of individual employees, which in turn improves the productivity and profitability of the organizations (S.P.P. CHOI, Cheung, & PANG,2013).[2]

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Studies also reveal that nurses who are not satisfied at work were also found to distance themselves from their patients and responsibilities, resulting in lack of quality of care and poor outcome of health care (L. Ismail et al., 2015)[3]

Materials and Method

The present study was aimed at identifying the level of job satisfaction among nurses. Moreover, factors influencing the satisfaction levels among nurses in Primary Health Center in Ras Al Khaimah were also studied. Quantitative research approach was found to be most appropriate. Cross-sectional design was used to accomplish the aim of the study. This study was conducted in 18 primary health centers at Ras Al Khaimah.

A Convenience sampling technique was used to recruit the sample. 112 samples were used. The reliability was analyzed by means of Cronbach's alpha and yielded reliability coefficients of 0.93. The tool used for the study were socio demographic variable of nurses:like age, gender, ethnicity, marital status, educational status,

work experience, and working clinic. The second part of the questionnaire is a multidimensional instrument designed for use in the community nurse sector. It has 43 items it is a likert scale questionnaire under the following topics; personal satisfaction questions, satisfaction with workload, satisfaction with professional support,satisfaction with training, satisfaction with pay, satisfaction with standards of care and over all satisfaction. The factors that influence the satisfaction level is intrinsic factors which contains 5 items and extrinsic factor which contains 5 it's. The study also provides important information regarding the factors intrinsic' and extrinsic' associated with satisfaction level among nurses extrinsic factors such as organizational and administrative policies and interpersonal relations had positive association with job satisfaction among registered nurses.

Ethical approvals were sought from Research and Ethical Committee (REC) of the RAK Medical and Health Sciences University, RAK College of Nursing . The participants were informed about purpose, process, potential benefits, and outcome of the research. Assurance was given to the subjects that confidentiality would be maintained and then consent was obtained before conduction of the study. The tools were administered and it took 30 minutes to collect the data from the sample. Sample were the staff nurses having a work experience of more than 6 months and who were available at the time of data collection.

Results

A good number of study subjects were Arab 45.5%. Majority of them were from urban areas 67.9% and were married 83.9%. Most nurses had six to nine years of experience (42%) and 11.9% who had more than 30 years of experience

Table 1: Multinomial Regression for Intrinsic Factors Associated with Job Satisfaction Level among Nurses working at Primary healthcare Centers in RAK (n=112)

Intrinsic Factors	Unadjusted Odds Ratio (95% CI)	Adjusted odd ratio (95% CI)	P-Value
Promotions are regular	0.33 (0.08-0.53)	0.45 (0.13- 0.67)	0.05
More recognition of senior nurses	2.19 (1.5-6.91)	1.81 (1.56- 5.87)	0.34
Professional autonomy	0.19 (0.06-0.55)	0.21 (0 .06- 0.66)	0.008*
Advancement opportunities	0.60 (0.23- 0.82)	0.53 (0 .15-0.77)	0.03*

Note: There were certain factors that were cause of dissatisfaction among nurses. Those were more recognition of senior nurses (OR: 2.19; 95% CI: 1.5-6.91), disruptions in social life due to working hours (OR: 1.72; 95% CI: 1.32-2.98). Workload was also independently associated with dissatisfaction of nurses (OR: 2.38; 95% CI: 1.15-5.01).

Table 2: Multinomial Regression for Extrinsic Factors Associated with Job Satisfaction Level among Nurses working at Primary healthcare Centers in RAK (n=112)

Extrinsic Factors	Unadjusted Odds Ratio (95% CI)	Adjusted odds Ratio (95% CI)	P-Value
Respect from management Satisfaction	0.11 (0.12-4.83)	0.80 (0.51-0.99)	0.05*
Not fairly rewarded	1.67 (1.02-6.27)	3.83 (1.02-6.27)	0.03*
Feedback given	0.32(0.11-0.65)	0.41 (0.22-0.68)	0.006*
Group cohesion	0.45 (0.23-0.88)	0.52 (0.40-0.77)	0.04*

The extrinsic factors which were found to be associated with levels of satisfaction among nurses after adjusting for the confounders were respect from management (ORadj: 0.80; 95%: 0.51-0.99), feedback given (ORadj: 0.80; 95%: 0.51-0.99, P=0.006), group cohesion (ORadj: 0.52; 95%: 0.40-0.77, P=0.04).

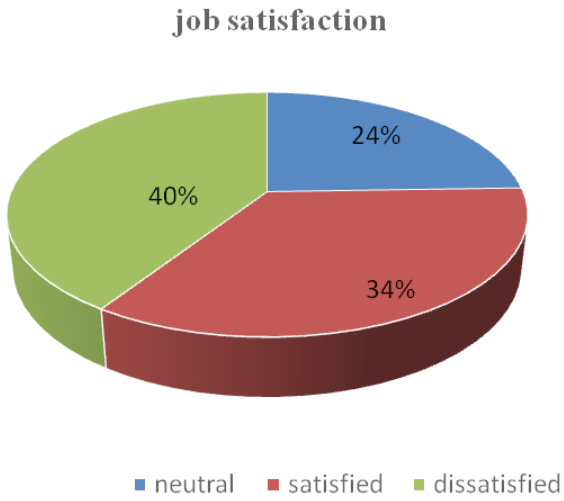

Figure 1: Job Satisfaction among Nurses

Figure 1 job satisfaction among PHC nurses: Satisfaction Level among Nurses working at Primary healthcare Centers in RAK. In this study, 26% of the nurses working as community health nurses in the 18 health centers of MOH in RAK reported being neutral in terms of job satisfaction or dissatisfaction.

However, 34% of the nurses reported that they are satisfied with their jobs. Whereas, 40% reported that they are currently dissatisfied with their jobs.

Conclusion

In conclusion, the issue of shortage of nurses is one of the most important issues for any health care organization worldwide. The problem of shortage of nurses is a grave situation for UAE, due to the higher rates of turnover. Since, it has direct impact on the quality of health services provided and patients' outcome. Over the years many expatriate nurses have been recruited from many developed countries like United States of America, United Kingdom etc. and developing countries. Therefore, it is important for the health sector to maintain the stability of the health care delivery organizations for the effective functioning.

Acknowledgements: Ms Badryia Al Shei, Nursing Director of RAK Medical District, for her support and encouragement in allowing my survey to be distributed in Primary Health centers to the head nurses in all 18 Primary Health Centers and Nurses whom so graciously consented and completed my questionnaire, and provided valuable information.

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Predictors of Mortality in Pediatrics Cardiopulmonary Resuscitation: Observational Multicenter Study

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Abstract

Purpose: This study aimed to identify predictors of mortality related to the quality of CPR, victims' pre-CPR characteristics, and the resuscitation characteristics.

Design and Method: A descriptive observational design with a non-active approach was used. Data collectors observed the implementation of CPR then recorded the parameters of interest against a pre-structured checklist. A total of 242 CPR events were observed. The study took place in three medical centers in Jordan.

Results: The study showed that victims whose CPR took place in the emergency room and those admitted with cardiac and respiratory diseases were more likely to resume spontaneous breathing and circulation.

Conclusion: Early identification of patients at high risk for mortality would help to reduce the rate of mortality through quick response and proper resuscitation.

Keywords: *CPR; pediatric; mortality; predictors.*

Introduction

Cardiopulmonary resuscitation (CPR) aims to restore circulation and breathing in order to increase the chance of survival; however, its outcomes are not fully predictable. Despite advances in the prevention and treatment of cardiopulmonary arrest in children, the rate of mortality is significantly high, especially in developing countries [1,2]. Studies have reported mortality rates of from 15% up to 50% of the total number of pediatric admissions[3,4]. This represents a major challenge for healthcare providers and is a significant social and economic burden.

Mortality from CPR has decreased dramatically over the past two decades, from 85% to 50% [3]. The factors contributing to this are multidimensional and include but are not limited to the improvement in the quality of CPR and the application of many approaches to improve the quality of care delivered to pediatric patients; however, there is evidence of great variation in the rate of mortality across the world, meaning that more lives could be saved.

Studies reported a significant increase in the rate of post-CPR mortality in developing countries in comparison with the western world[5,6]. One study in Saudi Arabia reported a rate of mortality of 50% [7], and another of immediate post-CPR mortality of 36% and 70% at discharge [8]. A study in Iran reported a rate of 37% [9], while one in Malawi found spontaneous circulation in only 6% of victims (N=135) [10]. In the other hand, a

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study in the United States (N=164) reported a rate of 10% mortality [11] and another 7 deaths/1000 victims [12].

Several pre-arrest and resuscitation factors have been investigated to evaluate their effect on mortality, including the type of arrhythmia, duration of CPR, use of vasoactive drugs, and use of a mechanical ventilator. However, there is still imprecision in the prediction of mortality following CPR due to the large number of etiologies and the diversity of patients. Successful prediction and early management of cardiopulmonary arrest are crucial to prevent mortality.

This study investigated the predictors of mortality in pediatric CPR. Potential predictors considered were the quality of CPR, victims' pre-CPR characteristics (gender, ward, type of arrhythmia that necessitated CPR, diagnosis at admission), and the resuscitation characteristics (onset and duration of CPR).

Method

Design: This study used a descriptive observational design. Data collectors observed the application of CPR and documented the procedures without taking part themselves. Some of the variables were obtained from the patients' files.

Setting: The study was conducted in three hospitals located in three major cities in Jordan, each receiving an average of 1,000 admissions a month. Observations were conducted on several wards including emergency room, medical and surgical floors, and intensive care units. The average number of beds in these departments was 10. The selection of hospitals was based on the availability of ethical permission and a large bed capacity of more than 500.

Sample and sample's characteristics: Sample size for this study was calculated using G* Power software version 3 [13]. Based on an estimated medium effect size of 0.15, power of 0.95, and a statistical significance 0.05, the required sample size to run binary logistic regression tests was 161. 242 CPR cases were obtained to increase confidence in the results.

Eligible participants were any CPR victim aged from 1 month to 14 years, with a cardiac or pulmonary arrest witnessed by the observers of this study. Exclusion criteria were unwitnessed CPR (that is, occurring before arrival at hospital) and adult CPR patients.

Instrument: An observational checklist was created based on the updated CPR evidence-based guidelines from the American Heart Association [14]. The checklist contained two parts. Part one covered general items including gender, ward, type of arrhythmia that necessitated CPR, diagnosis at admission, and onset and duration of CPR. Part two was a 20-item checklist that measured the quality of CPR with three options per item: "not done" deserved no credit, "done but not completely or not accurately" was awarded one mark, and "done completely and accurately" two marks. Higher scores in part two indicated a higher quality of CPR. During the observation, the observer recorded "not done" if the CPR team failed to apply the item of interest based on the updated AHA guidelines. If the CPR team demonstrated an action that had some value but was inconsistent with the guidelines, the observer recorded "done but not completely," and if the team demonstrated an action that was consistent with the guidelines, "done completely and accurately." The maximum score was 40 and the minimum 0, the higher score indicating a higher quality of CPR. A panel of experts participated in the evaluation of the validity and reliability of the instrument. The panel approved the content validity of the instrument.

A pilot study with 10 CPR events was conducted to evaluate the inter-observer reliability. The test was conducted by having three observers score the quality of CPR performed by the rescuers. The instrument showed very good reliability with an interclass correlation coefficient of 0.79.

Data collection procedures: The study was advertised in the participating hospitals and followed by a presentation that explained the goals and procedures of the study. Hospital staff were informed that they would be observed during CPR and their performance as a team would be evaluated according to a pre-structured observation sheet. The staff were also informed that observations would be overt and they would be allowed to see the completed instrument for every CPR if requested, their acceptance to being observed during CPR considered as consent to participate.

Providers of basic life support and advanced cardiac life support authorized by the American Heart Association were recruited for data collection. They were not staff of the participating hospitals. They attended a brief training course on how to complete the study's instrument. They waited in the participating hospitals for a CPR call, and then observed the CPR procedures and completed part two of the observational sheet (quality

of CPR). Part one (general items) was later completed from patients' records. CPR in this study was defined as any respiratory or cardiac arrest with an absence of spontaneous breathing and/or pulse. Two data collectors were assigned to each department in each hospital, to cover both day and night shifts. The primary outcome was the mortality rate at the end of CPR. Return of spontaneous circulation and breathing was considered the criterion for survival. The study was conducted over a one-year period from January 2018 to January 2019.

Statistical analysis: The Statistical Package for Social Science (SPSS) version 21 [15] was used to analyze the data. Cleaning and screening were first conducted, then the frequencies of the variables explored. Scores for the quality of CPR were calculated for each CPR event. Assumptions of logistic regression were tested, and none was found to be violated. The categorical variables "ward" and " diagnosis at admission" were dummy coded. For the former, the neuro ICU was selected as a reference category and for the latter "others." Logistic regression was conducted to assess the influence of the variables on mortality. The model contained the following independent variables: onset of CPR, quality of CPR score, type of arrhythmia, duration of CPR, gender of CPR victim, ward, and diagnosis of CPR victim at admission. The dependent variable was CPR result (mortality vs. return of spontaneous circulation and breathing) at the end of CPR.

Ethical Issues: This study was granted ethical permission by the institutional review boards of the principal investigator's university and the participating hospitals. A request to waive informed consent was approved as the study had minimal risk and could not be conducted without the waiver. Confidentiality was maintained throughout the whole study. No information that might have led to the CPR providers' identity was sought. CPR victims' personal data was deleted from the final data file at the end of the study. Data were stored on the principal investigator's personal laptop. Hardcopy materials were shredded appropriately.

Results

242 CPR events were analyzed. Nearly a third of the victims had respiratory arrest. Almost two-thirds of the victims died (147 out of 242). Of those who resumed spontaneous circulation 61, were male of the victims, 234 (98%) were under two years old. The mean onset of CPR was 13 seconds and the mean duration 16 minutes. The mean duration of CPR for the victims who survived was 13 minutes. Almost half the participants were on a mechanical ventilator at the time of CPR. All victims received at least one dose of adrenaline (Table 1). The mean score for the quality of CPR was 28.8. Nearly four-fifths of the CPR were given a quality score above 20 (198 out of 242).

The logistic regression model with the independent variables gender, ward, type of arrhythmia that necessitated CPR, diagnosis at admission, onset of CPR, duration of CPR, and quality of CPR was significant: $\chi^2(8) = 17.867$, $p=0.02$. The model explained 45% of the variance in mortality and correctly classified 81% of the cases. The ward in which the CPR took place and diagnosis at admission were the most significant predictors of mortality. CPR which took place in the emergency room was 26% less likely to end up with death than that in the neuro ICU. Likewise, victims who were admitted with cardiac and respiratory diseases were respectively 21% and 29% less likely to die in CPR than those admitted with other sorts of illness. The onset, quality, and duration of CPR were statistically significant; however the odd ratio for each was very small and it was unlikely to have a clinical effect on mortality (Table 2).

Table 1: Participants' Characteristics

Variable	N=242 n (%)
Gender	
Female	109(45%)
Male	133(55%)
Ward	
Emergency Unit	95(39%)
Pediatric Intensive Care Unite	50(21%)
Medical/Surgical Floor	59(24%)
Neuro Intensive Care Unite	38(16%)
Arrhythmia that Initiated CPR**	
Ventricular Tachycardia	60(25%)
ventricular Fibrillation	98(40%)
A Systole	84(35%)
Diagnosis at Admission	
Respiratory Diseases	72(30%)
Cardiac Diseases	45(19%)
Neurologic and Head Injury	47(19%)
Others*	78(32%)

*: Poisoning, snake bite, scorpion sting, blood disorder, acid base disturbance, renal diseases, birth related and developmental abnormalities, and gastrointestinal disturbances

**: Cardiopulmonary resuscitation

Table 2: Predictors of mortality in pediatric CPR

Variable	B	p-value	Odds Ratio	95% CI for Odds Ratio	
Onset of CPR***	0.69	0.00	1.07*	1.01	1.11
Quality of CPR	-0.06	0.00	0.94*	0.90	0.98
Type of arrhythmia	-0.70	0.11	0.55	0.26	1.15
Duration of CPR	0.12	0.00	1.13*	1.07	1.19
Gender	-0.54	0.10	0.64	0.33	1.1
Ward		0.00			
Emergency unit	-1.60	0.00	0.26*	0.09	0.78
Pediatric intensive care unite	-0.65	0.26	0.52	0.16	1.63
Medical/surgical floor	-0.11	0.84	0.89	0.28	2.81
Neuro intensive care unite			1**		
Diagnosis at admission		.047			
Respiratory diseases	-1.75	0.00	0.29*	0.12	0.72
Cardiac diseases	-2.18	0.01	0.21*	0.08	0.53
Neurologic and head injury	-0.91	0.29	0.40	0.07	2.21
Others			1**		

*: p< 0.05, **: Reference category, ***: Cardiopulmonary resuscitation

Discussion

This study investigated predictors of mortality in pediatric CPR. Potential predictors investigated included quality of CPR, victims' pre-CPR characteristics and resuscitation characteristics. We found that CPR victims who had had their resuscitation in the emergency room were less likely to die than those in the other wards. Likewise, the odds of death among victims admitted with respiratory or cardiac diseases were significantly lower than those of patients who had different sorts of illness. Duration, onset, and quality of CPR were found to be statistically significant yet with minimal clinical significance.

Our findings agreed with other studies, that several pre-arrest characteristics influence the victim's chance of survival. For example, those admitted with heart disease had a lower mortality rate than those with other diagnoses[11,16]. Rathore, Bansal, Singhi, Singhi, Muralidharan[6] reported sepsis at admission as the major predictor of mortality following pediatric CPR.

On the other hand, our findings contradicted other studies which reported no difference in mortality among victims admitted with heart disease [17] (N=150) or respiratory disease[11] (N=164) in comparison with other diagnoses; however these studies recommended replication with larger sample sizes.

Our findings contradicted those from other studies which reported a lower rate of mortality among patients in the pediatric intensive care unit (PICU) [5,16]. In our study, the emergency department showed a lower rate than in other departments. Our finding could be explained by the fact that children with critical illness are usually treated in the emergency room rather than the PICU because of the unavailability of beds in the latter. This situation is common in developing countries with limited resources [6].

Our study had some limitations; although it was adequately resourced, it failed the capture the effect of some major factors. It would be useful replicate it with a larger sample size to help uncover the influence of the duration, quality and onset of CPR on mortality. Moreover, this study missed some important variables such as the administration of other CPR medications including sodium bicarbonate and calcium gluconate, which might have affected the reliability of the findings. In addition, selection of CPR events was not random and might entail some bias. Future studies are recommended to use random sampling to improve the reliability of the findings. Finally, the primary indicator in this study was the return of spontaneous circulation and breathing. It would be helpful for future research to consider other criteria, such as sustained return of circulation and breathing and discharge from hospital.

Conclusion

Predictors of mortality in pediatric CPR are not fully understood due to the wide variety of factors that affect victims. The effect of diagnosis at admission and the ward in which the CPR takes place were the most significant factors influencing the rate of mortality. Although the effect of the quality, duration, and onset of CPR was known from previous studies, this effect could not be captured in ours. Replication of our study may reveal the effect of such factors.

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A Pre-experimental Study to Assess the Effectiveness of Structured Teaching Program Regarding Knowledge about Home Management of Selected Common Illnesses in Pre-school Children among Mothers Residing in Rural Area of Panipat

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Abstract

Background: Child care is mostly responsibility of mothers. Therefore, the mother's knowledge about child care influences the nature and quality of care that is given to the child. Several studies have revealed that the mother's level of education has a positive impact on her knowledge and how she deals with child health care issues.

Aims: To assess the knowledge about home management of common illness.

Method: A one group pre-test post-test pre-experimental design and evaluative approach adopted. The study was conducted among 60 mothers conveniently selected from rural area of Panipat.

Result: The results of the study shows that in pre-test, mothers were having poor knowledge 31.66%, Average knowledge 68.34% and good knowledge 0.00% regarding selected common illness of children and mean score was 11.57 in post-test, poor knowledge is 0.00%, average 41.66% and good knowledge is 58.34% regarding selected common illness of children and means score was 20.77, The post-test mean knowledge score is significantly greater than the pre-test mean knowledge score so structured teaching programme was effective.

Conclusion: This study concluded that structure teaching programme was highly effective in improving knowledge of mothers about home management of common illness in children.

Keywords: *Effectiveness, Structure teaching programme, Knowledge, Home Management of common illness, Pre-school children's mother.*

Introduction

"It is like having an egg on spoon walking with it for life, That is what parents have pushed through the laws of society, Everybody is alert by experience prevention is better than cure" *Moeze lalji*

"Home, Sweet Home" there is no place like home, either in health or in sickness, because the person feels comfortable, secure and more cared. Mother is a key person for assistance in the care of a sick child, especially, in developing countries. During illness, the child is under physical and emotional stress, and is in great need of love, affection, security and relief from discomfort. The best person to take care of the sick child at home is the mother. Children are always happy in their own surroundings and whenever possible sick children should be cared for in their own homes on a scientific base.

The constitution of India authorizes the Government to take measures for the protection of women and children. There are 2.2 billion children in the world. Children below 6 years constitute 17% of the total

population of India is about 17 crores. As compared to other developed countries, infant mortality rate in our country is very high. At the beginning of 1980's 120 out of every thousand newly born children was dying even before completing one year. Despite the global progress in reducing child mortality over the past few decades, an estimated 5.4 million children under age 5 died in 2017 roughly half of those deaths occurred in sub-Saharan Africa. Mortality rates among older children and young adolescents (aged 5-14) also dropped by more than 50 per cent since 1990, yet almost one million children died in this age group in 2017 alone. The global burden of child deaths is a call for urgent and concerted action to further improve the survival chances of the world's children.[1]

According to UNICEF in India diarrhea is a major killer with about 1000 children below 5 years dying every day. Diarrhea is one of the commonest causes of morbidity in children in developing countries.[2]

Fever may occasionally bring about febrile convulsions in up to 130 children under-five years of age.[3]

Every year, more than 10 million children's less than five years of age, die in developing countries. Most of these deaths are preventable and are mainly due to infective etiologies like diarrhea, respiratory tract infections, measles, tuberculosis etc. Apart from malnutrition, the other factors contributing to illness in this in this age group are poor living conditions unsafe drinking water, poor hygiene and overcrowding.[4] In India Diarrheal diseases is a major public health problem among children under the age of five years .health institution up to a third of total pediatric admission are due to diarrheal disease and up to 17% of all death in indoor pediatric patient is diarrhea related.[5]

A sore throat also known as Pharyngitis is normally a symptom of bacterial or viral infection, such as common cold. In around a third of cases. They are more common among children. This is because young people have not built up immunity against many of the viruses and bacterial that can cause sore throat.[6]

A cold is a general term used to a mild viral infection of the nose, throat sinuses and upper airways. It is a self-limiting infection, which means it gets better by itself with the help of home management.[7] A cough is a reflex action to clear your airway of mucus and irritants such as dust and smoke. Coughs have a respiratory tract infection caused by a virus, such as the common cold, flu or bronchitis.[8]

Statement of the Problem: "A Pre-experimental study to assess the effectiveness of structured teaching program regarding knowledge about home management of selected common illnesses in pre-school children among mothers residing in rural area of Panipat".

Objectives of the Statement:

- To assess the pre and post test knowledge regarding home management of selected common illnesses in pre-school children among mothers residing in rural area of Panipat.
- To assess the effectiveness of structured teaching program regarding home management of selected common illnesses in pre-school children among mothers residing in rural area of Panipat.
- To associate pre-test knowledge regarding home management of selected common illnesses in pre-school children among mothers with their selected socio-demographic variables.

Hypothesis: All the hypothesis will be tested at $P < 0.05$ level of significance.

H_1: The mean post knowledge score regarding home management of selected common illnesses in pre-school children among mothers is significantly higher than their mean pre-test knowledge score.

Assumptions:

- Mothers of pre-school children will have inadequate knowledge regarding home management of common illnesses.
- Structure teaching program will enhance the knowledge of mothers regarding home management of selected common illnesses.

Ethical Consideration:

- Formal permission will be obtained from the concerned authorities.
- Informed written consent will be obtained from the sample enrolled for the study.
- All the information collected will be kept confidential.

Operational Definitions:

Assess: It refers to statistical measurement of

knowledge regarding management of common illness in pre-school children's.

Effectiveness: Improvement in knowledge regarding management of common illness in pre-school children's after planed teaching program in mother measured by self-structured questionnaire.

Structure teaching program: It refer to systematic and scientific information related to home management of selected common illness which will be in form of structure teaching program.

Knowledge: It refers to the understanding of mothers regarding management of common illness in pre-children.

Mothers: It refers to the women who are having children between the age of 3-5 years.

Home Management: Traditional procedures followed at home by mothers in treating the health problem of Pre-school children.

Common Illness: Common illnesses are ones that can be treated in home without any medication and cause no lasting harm. The common illnesses are diarrhea, cold, sore throat, fever, constipation, and cough, nausea and vomiting.

Pre-school Children: It refers to children between the ages of 3-5 years.

Research Methodology:

Research Variables: A concept which can be taken on different qualitative values as variables.

Independent Variables: According to the variable is that believed to influence the behavior and ideas.

The independent variable in the present study is structured teaching program on home management of common illness.

Dependent Variables: It is the variable the researcher is interested in understanding, explaining and preceding. The dependent variable in the present study is knowledge of mother regarding home management of common illness.

Demographic Variables: Demographic variables such as age of mother, education of mother and father, occupation, types of the family, family monthly income, number of children, number of children under-five.

Research Setting: Setting is the typical location and condition in which data collection takes place.

The present study will be conducted at selected rural area Baroli, Panipat.

Population: The entire set of individual having the same common characteristics.

The population included in the study is mothers residing in rural area Panipat.

Target Population: Mother having 3-5 years children.

Sample and Sampling Technique: It refers to the process of selection a portion of the population to represent the entire population.

- **Sample:** Mothers of pre-school children.
- **Sample Size:** The sample size of the study is 60 mothers of pre-school children.
- **Sample Technique:** Non probability convenient sampling technique was used.

Criteria for the Sampling Technique:

Inclusive criteria:

Mothers who are:

- Having children 3-5 years.
- Willing to participate in the study.
- Available at the time of data collection.

Exclusion criteria:

The study excludes mothers who were not:

- Having children of 3-5 years.
- Willing to participate in the study.
- Available at the time of data collection.

Data Collection Method: A self-structured Questionnaire will be developed and used for collecting the date. It consists of two parts.

Section 1: It deals with socio demographic profile.

Section 2: It deals with the tool related to knowledge regarding home management of selected common illnesses in pre-school children among mothers.

Tools: Selected socio-demographic variable. Self-structured questionnaire.

Validation of Tool: It is the extent to which an instrument accurately reflects the abstract construct being examined.

Content Validity: The content validity of the tool will be confirmed by three nursing experts and two doctors.

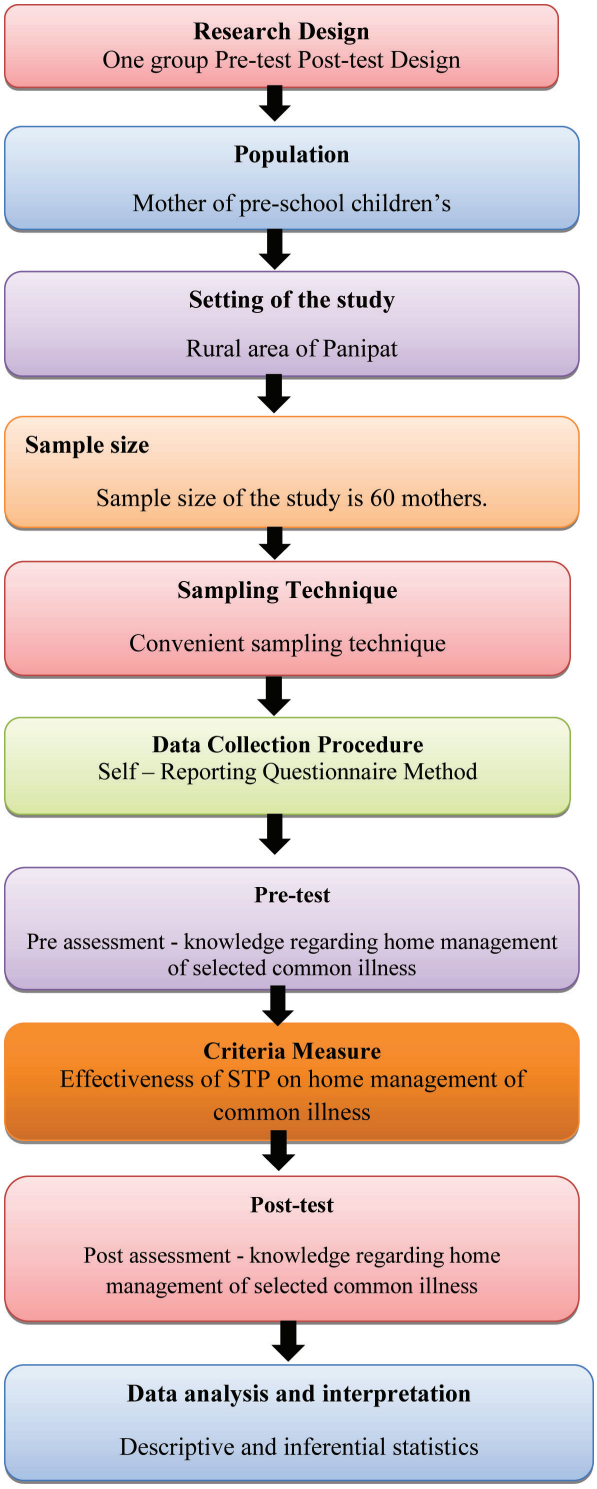

Figure 1: Schematic Representation of Research Methodology Data Analysis & Interpretation

- **Objective–I:** To assess the pre and post- test knowledge regarding home management of selected common illnesses in pre-school children among mothers residing in rural area of Panipat.
- With regard to pre –test knowledge. Majority of the samples 41 (68.34%) were having average knowledge. Poor knowledge was present among 19 (31.66%). None of the samples were with good knowledge.
- **Objective-II:** A study was to evaluate the effectiveness of structured teaching programme regarding home management of selected common illnesses in pre-school children among mothers residing in rural area of Panipat.
- The pre –test mean value was 11.57 and the post–test mean value was 20.77. their difference was 9.2. the standard deviation value in pre –test and post–test was 1.854 and 2.012 respectively. The 't' test value was 32.390 for the degree of freedom. It was found statistically significant at 'P' value of 0.000.
- Hence it was proved that there is a significant difference in level of knowledge between pre –test and post–test. This shows the effectiveness of structured teaching programme.
- **Objective-III:** Find the association between the pre-test knowledge scores with their selected socio demographic variables.

The shows that none of the sociol demographic variables have statistically significant association with pre –test level of knowledge.

Major Findings of the Study: Frequency and percentage distribution of samples according to socio–demographic variables shows the following findings.

- With regard to age majority of the samples 36 (60.00%) were in age between 20 –25 years. Samples in 26 –30 years of age were 21 (35.00%). Very few samples 3 (5.00%) were in age between 31 –35 years.
- Father's education of the samples shows that little less than one –half of the samples 29 (48.33%) were having 6^{th} –12^{th} standard of education, followed by them graduates and above were 23 (38.34%). Less number of samples was illiterate 8 (13.33%). None of them had primary education.

- Mother's education of the samples shows that little less than one –half of the samples 29 (48.33%) were having 6^{th} –8^{th} standard education, followed by them those who had primary education were 27 (45.00%). Few samples 3 (5.00%) were illiterates and only one sample had graduate and above education.
- With regard to father's occupation little above one –half of the samples 31 (51.66%) were doing private job. One fourth of the samples 15 (25.00%) were labourer's. Businessmen's were 9 (15.00%) and government servants were 5 (8.34%).
- Mother's occupation depicts that an overwhelming majority of the samples were housewives 57 (95.00%), samples mother who were doing private job were very little 3 (5.00%). None of the mothers of samples were labourer and govt servants.
- With regard to the type of family of the samples Majority of them 36 (60.00%) were belongs to joint family. Rest of them 14 (40.00%) were belongs to nuclear family.
- Family income of the samples shows that 24 (40.00%) of the total samples had income between 5001 –10000 Rs. The second highest number of samples 19 (31.68%) were having monthly income of less than 5000 Rs.
- Little less than one half of the samples 29 (48.34%) had one children, those who had two children were 23 (38.33%). Less number of samples 7 (11.62%) had three children.
- With regard to number of under-five children an overwhelming majority of the sample 50 (80.33%) were having only one child. Those who had two children were 10 (16.67%).

Delimitations:

- The study is limited to those living in rural area of Panipat.
- All the mothers were not participating in the study.
- The study contains home care management of selected health problems only.

Nursing Implication: The current study findings have implications in all the field of nursing like nursing practice, nursing education, nursing administration and nursing research. The implications can be discussed as follows:

Nursing Practice: Nurses can arrange some educational sessions like educational exhibition and demonstration for the mothers as well as antennal mothers for improving their knowledge and quality of care. Nurses working in the community could collaborate with the anganwadi workers to improve the Knowledge of mothers on prevention and home management of common illness and provide improved child care.

Nursing Education: Nurses at post graduate level need to develop skills in preparing various teaching method in various specialized areas at the level of mothers. Nurse educators can arrange the interactive method with the mother who has children with history of common illness for easy understanding of how to care children with common illness. Making use of advanced technology like LCD projector and power point presentations not only improve the performance of teacher but also help the mothers to understand very easily and can develop their interest in teaching.

Nursing Administration: The present study has proven effectiveness of health education enhancing the Knowledge of mothers with reference to prevention and home management of common illness. So the nurse administrator can take initiative to provide facilities to conduct research such educational programs in the hospital as well as in community.

Nursing Research: The study helps the nurse researcher to develop insight into the development of teaching module and material for mothers with reference to prevention and home management of common illness for improving their knowledge and quality of home care. One of the aims of nursing research is to contribute the knowledge to the mothers, to improve the quality of living. This is possible only if nurses take initiative to conduct the further research.

Recommendations:

- Similar study can be done with control group.
- The study can be replicated in different settings.
- Large sample size can be used for the study.
- Comparative study can be conduct.

Conclusion

From this study finding, it was concluded that structured teaching programme was effective in improving the knowledge of mothers about home management of common illness in pre-school children.

Ethical Clearance: Taken from Research Committee ved nursing college .

Source of Funding: Self

Conflict of Interest: Nil

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Effect of Progressive Muscle Relaxation on Anxiety among Antenatal Mothers Attending Antenatal OPD of GGSMC & Hospital, Faridkot, Punjab

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Abstract

Introduction: During pregnancy many changes occur in women's self-concept and the changes in their self-image and the shift in focus from themselves to the needs of the foetus and unfamiliar territory of pregnancy and early motherhood creates anxiety. Relaxation techniques are a great way to help in managing anxiety such as progressive muscle relaxation technique(PMRT) which may be very useful for treating anxiety symptoms during pregnancy.

Aim: The aim of this study is to assess the effect of progressive muscle relaxation on anxiety among antenatal mothers.

Material & Method: Quasi Experimental design with two group pre-test and post-test design was used. Conceptual framework for the study was adopted from Ludwig Von Bertalanffy (1968) General System Model was chosen to conduct the study. Through convenience sampling, 35 subjects were selected in experimental and 35 in control group. Subjects in experimental group (n=35) were provided PMRT and conventional care and in control group (n=35) only conventional care was provided. Perinatal Anxiety Screening Scale (PASS) and Socio demographic data sheet was used to collect the data.

Results: Results revealed that there was significant difference in level of anxiety after four weeks of progressive muscle relaxation technique in experimental group (p value 0.005) as compared to control group. However, there was no association of pre-test level of anxiety with selected demographic variables

Conclusion: The study concluded that progressive muscle relaxation technique was effective in reducing anxiety among antenatal mothers after 4 weeks of intervention in experimental group.

Keywords: *Antenatal mothers*, *Progressive muscle relaxation technique, Perinatal Screening Anxiety scale, anxiety.*

Introduction

Pregnancy is an important event, one of the great honours and God's gift to woman, for this woman is respected everywhere. It is surrounded by many positive values ranging from enhancement of the self-esteem to social approval. Pregnancy and child birth is a great event in the life of every woman for which she aspires and longs for, with great expectation. She has fantasies about pregnancy and motherhood.[1] The psychological changes also depend upon whether the pregnancy was planned or unplanned, fear of problems associated with the pregnancy or the baby, fear of childbirth and lack of support and being alone, the amount of help the couple might expect to receive in raising the child, the type of

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relationship whether stable or transient with the partner, pressure from the partner or family to become pregnant.[2]

During pregnancy many changes occur in women's self-concept. Women may feel having lost some control over their lives. The changes in their self-image and the shift in focus from themselves to the needs of the foetus and unfamiliar territory of pregnancy and early motherhood creates stress and anxiety.[3]

Anxiety can arise when the expectations are not met culminating in the delivery of a healthy baby is threatened. Pregnancy can increase anxiety in a woman's life. .The extent of anxiety during pregnancy is determined by a combination of a degree of awareness and the magnitude of their unmet needs.[4] Maternal stress and anxiety were found to be the predictors of adverse pregnancy outcomes including low birth weight and prematurity. The consistent increase in the frequency of IUGR, preterm delivery and LBW were noted among the infants of women with high baseline levels of psychological distress and low levels of social support. Anxious pregnant women are more likely to have asthmatic children.[5]

The common non-pharmacological therapies given during antenatal period to alleviate stress and anxiety are massage, muscle relaxation, breathing technique, aroma therapy, herbal therapy, yoga, guided imagery, meditation and psychotherapy.[6]

Muscle relaxation technique is equally non-invasive, cost-effective, and easily applicable during pregnancy Progressive muscle relaxation therapy is an effective and widely used mind body interventional strategy for stress and anxiety relief. It is a therapy with tensing and relaxation of muscle groups. It was developed by Chicago physician Edmund Jacobson in the year of 1934. The contraction of skeletal muscle fibres leads to the sensation of muscle tension, the result of a complex interaction of the central and peripheral nervous system with the muscular & the skeletal systems and relaxation occur during the absence of perceived muscle tension. The sympathetic and parasympathetic nervous systems often work reciprocally in that elevated activation of one leads to deactivation of the other. Sympathetic activation is called the ergo tropic or 'fight or flight' response, Parasympathetic activation has been called the relaxation response or trophotropic in that it promotes rest and repair. Parasympathetic responses include reductions in HR and BP, stress and anxiety.[7]

The premise of PMR is that by tightening and releasing all the major muscle groups of the body in an exaggerated fashion, which will end up feeling more relaxed and at peace with yourself, and much less anxiety then you otherwise would. Practice of progressive muscle relaxation assist in relieving muscle tension, greatly improve overall feeling of well-being and most importantly, reduce stress and anxiety during pregnancy and make the pregnancy as joyous one.[8]

Statement of Problem: An Experimental Study to Assess the Effect of Progressive Muscle Relaxation Technique on Level of Anxiety among Antenatal Mothers attending Antenatal OPD of GGSMC & Hospital, Faridkot, Punjab.

Objectives:

1. To assess the pre-test level of anxiety among antenatal mothers in experimental and Control group.
2. To assess the post-test level of anxiety among antenatal mothers in experimental and control group.
3. To compare the pre-test and post-test level of anxiety among antenatal mothers in experimental and control group.
4. To determine the association of pre-test level of anxiety with selected demographic variables.

Hypotheses:

- **H_0:** The post-test level of anxiety among antenatal mothers in experimental and control group will be same.

Material and Method

The researcher has adopted the quantitative research approach and pre-testpost-test two group design. **Settings of the study**: study was carried out in Antenatal OPD of GGSMC & Hospital, Faridkot, and Punjab. **Population:** Target population for the study consisted of Antenatal mothers with a period of gestation ≥20 weeks attending antenatal OPD of GGSMC & Hospital, Faridkot, and Punjab. **Independent variable:** Progressive Muscle Relaxation Technique **Dependent variable:** Anxiety **Sample:** Antenatal Mothers. **Sample size:** 70 (35 in experimental and 35 in control group). **Sampling Technique:** Convenience sampling technique was used. **Description of the tool: Section A:** The demographic profile of the staff nurses was prepared by the investigator

under the guidance of guide and Co-guide. It includes variables such as Age (years),Education,Type of family, Monthly family income,Occupation, Period of gestation (in weeks), Gravida, No of live children, Sex of live children, Previous mode of delivery, History of miscarriage, Duration of sleep in 24 hrs. **Section B:** Perinatal anxiety screening scale.

Range of Scores	Level of Anxiety
0-20	Asymptomatic
21-41	Mild-Moderate Symptoms
42-93	Severe Symptoms

Criteria Measure:

Reliability: The reliability coefficient was 0.85 and the tool was found to be reliable. **Validity:** The validity was established by 6 experts. **Pilot Study:** The pilot study was being carried out on 10 subjects (5 in experimental and 5 in control group).

Results

Table 1: Frequency and percentage distribution of sample according to pre-test level of anxiety among experimental and control group N=35

Groups	Pre-Test Level of Anxiety		
	Asymptomatic (0-20)	Mild-Moderate (21-40)	Severe (42-93)
Experimental Group	6(17.14%)	19(54.2%)	10(28.5%)
Control Group	05(14.2%)	20(57.14%)	10(28.5%)

Table 1 depictsthe frequency distribution of antenatal mothers according to pre-test level of anxiety among experimental group & Control group. In the experimental group most of the antenatal mothers 19(54.2%), were in the category of mild to moderate anxiety followed by 10(28.5%) in severe category and only 6(17.14%) were in the asymptomatic category where as In the control group most of the antenatal mothers 20(57.14%) were in the category of mild to moderate anxiety, followed by 10(28.5%) in severe category and only 5(14.2%) were in the asymptomatic category.

Table 2: Frequency and percentage distribution of antenatal mothers according to post-test level of anxiety among experimental & control group N=35

Groups	Post-Test Level of Anxiety		
	Asymptomatic (0-20)	Mild-Moderate (21-40)	Severe (42-93)
Experimental Group	11(31.4%)	19(54.2%)	05(14.2%)
Control Group	05(14.2%)	16(45.7%)	14(40%)

Table 2 depicts the frequency distribution of antenatal mothers according to post-test level of anxiety among experimental group & Control Group. In the experimental group most of the antenatal mothers were in the category of mild to moderate anxiety 19(54.2%), followed by 11(31.4%) in asymptomatic category and only 5(14.2%) were in the severe category whereas In the control group most of the antenatal mothers were in the category of mild to moderate anxiety 20(57.14%), followed by 10(28.5%) in severe category and only 5(14.2%) were in the asymptomatic category.

Table 3: Comparison of effectiveness of progressive muscle relaxation technique on level of anxiety between experimental and control group N=70

Pre/Post test	Experimental Group N=35		Control Group N=35		t-test	Df	P-value
	Mean	±SD	Mean	±SD			
Pre-test	33.82	14.4	34.28	12.6	0.141	68	0.888
Post-test	28.88	11.6	38.45	14.37	3.056	68	.003 **

*Significant at p value<0.05

Table 3 depicts that the mean score of level of anxiety of antenatal mothers before intervention between experimental and control group was 33.82 & 34.28 and SD was 14.4 & 12.6 respectively. To compare the mean score between two groups, t test was applied. The t value on df 68 was 0.141 and p value was 0.888. There was no significant difference among the two groups with regard to anxiety at p value 0.05. Hence it can be interpreted that the pre-test level of anxiety was almost same between both groups. The mean score of post-test anxiety after four weeks was 28.88 & 38.45 and SD was 11.6 & 14.37 in experimental and control group respectively. The t value on df 68 was 3.056. There was significant difference at p value 0.003 between the two groups with regard to post- test level of anxiety after four weeks at p value 0.05. Hence it can be interpreted that there was significant difference in post -test level of anxiety after four weeks in experimental and control group. The level of anxiety after four weeks had reduced in experimental group as compared to control group.

Table 4: Comparison of effectiveness of progressive muscle relaxation technique on level of anxiety within the groups (experimental & Control group) N=70

Pre/Post test	Pre-Test		Post-test		t-test	Df	P-value
	Mean	±SD	Mean	±SD			
Experimental group (N=35)	2.1143	0.67	1.828	0.66	2.380	34	0.023*
Control group (N=35)	2.1429	0.64	2.314	0.67	1.358	34	0.183

*Significant at p value<0.05

Table 4 depicts the mean scores and standard deviation of pre-test level of anxiety of antenatal mothers was 2.1143±0.67 which was reduced to 1.8286±0.66 after intervention in experimental group. Paired t test was applied and t value on df 34 was 2.995. There was significant difference (p value 0.005) within the experimental group at p value 0.05. Hence it can be interpreted that there was significant difference in the level of anxiety among antenatal mothers within the experimental group. On the other hand, the mean score and standard deviation in control group was increased from 2.1429 ± 0.64 to 2.314 ± 0.67 On comparison of mean score, Paired t test was computed and t value on df 34 was 2.100. Hence it can be interpreted there was no significant difference (p value 0.043) within the control group at p value 0.05.

Table 5: Findings related to association of anxiety level with socio-demographic variables N=70

Sr.No.	Variable	X^2	Df	P value	Association
1.	Age	2.967	4	0.563	NS
2.	Education	10.772	8	.215	NS
3.	Type of family	4.708	4	0.319	NS
4.	Monthly family income	9.512	8	0.301	NS
5.	Occupation	0.213	2	0.899	NS
6.	Period of gestation	1.951	4	0.745	NS

Sr.No.	Variable	X^2	Df	P value	Association
7.	Gravida	2.115	2	0.347	NS
8.	No of live children	6.425	6	0.377	NS
9.	Sex of live children	3.021	6	0.806	NS
10.	Previous mode of delievery	4.190	4	0.381	NS
11.	History of miscarriage	2.052	2	0.358	NS
12.	Duration of sleep	3.611	6	0.729	NS

Table 5 depicts that there was no association of socio-demographic variables with pre-test level of anxiety among antenatal mothers which revealed the non-significant relationship at p>0.05.

Discussion

Present study revealed that maximum 35(50%) antenatal mothers were in the age group 25- 31 and minimum 6 (8.6%) in 32-38 age group. These findings were supported by **S Rajeshwari (2013)**[9] that maximum antenatal mothers 117(46.8%) were in the age group of 20-25 yrs and minimum 65(32%) in the age group of 36-40 yrs. Similar findings were reported by **Ika Mardiyanti (2018)**[10] maximum antenatal mothers 30(93.8%) were in the age group 20-25 and least 2(6.2%) in the age group 36-40.

The present study revealed that in experimental group, 19(54.2%) mothers had mild-moderate level of anxiety whereas in control group 20(57.14) antenatal mothers had mild-moderate anxiety during pre-test. These findings were supported by **S Rajeshwari (2013)** during pre-test 81(64.8%) antenatal mothers had mild-moderate level of anxiety among experimental group whereas in control group 87(69.6%) antenatal mothers were with mild-moderate anxiety.

Similarly, in the present study during post-test 19(54.2%) antenatal mothers were with mild-moderate anxiety in experimental group and 16(45.7%) antenatal mothers with mild-moderate anxiety in control group. These findings were supported by **S Rajeshwari (2013)** 97(78.9%) antenatal mothers were with mild-moderate anxiety in experimental group and while 84(67.2%) among control group in post-test.

Conclusion

- The anxiety among antenatal mothers in the experimental and control group during pretest and posttest revealed that in the pretest, maximum antenatal others 19(54.2%) & 20(57.14%) had mild-moderate level of anxiety, followed by 10(28.5%) had severe level of anxiety and only 6(17.14%) & 5(14.2%) were asymptomatic in both the groups.
- In the posttest also, majority of the antenatal mothers 19 (54.2%) from the experimental group and 16(45.7%) from the control group had mild-moderate anxiety and only 5(14.2%) in the experimental group were asymptomatic and only 5(14.2%) in the experimental group and 14(40%) in the control group had severe level of anxiety.
- The findings of the study revealed that there was significant effect of progressive muscle relaxation on anxiety among antenatal mothers in experimental group.
- There was statistically non-significant association of pre-test level of anxiety with selected demographic variables

Recommendation for Future Study:

1. Comparative study to assess efficacy of the intervention between normal mothers and high-risk mothers.
2. Biochemical markers can be used to assess stress and anxiety on efficacy of the intervention
3. A similar study on primigravidae can be conducted at different period of gestation.
4. A comparative study can be done between muscle relaxation therapy and some other complementary and alternative therapies
5. Knowledge, practice and attitude about PMR among other health care team members can be studied.

Limitations: It is a small sample sized study.

Conflict of Interest: Nil

Source of Funding: Self

Ethical Clearance: This study has been approved by the ethical committee of University College of

Nursing, BFUHS (Baba Farid University of Health Sciences). Permission of data collection was taken from the Medical Superintendent (MS) of the GGS medical College and Hospital, Faridkot. Written Informed consent was taken from each study subject.

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Flipped Classroom Learning Experiences of Graduate Nursing Students in Advanced Pathophysiology and Pharmacology in Midwifery Course

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Abstract

Background: Flipped classroom is designed as an educational innovation in order to enhance student's critical thinking and problem-solving skill. It comprises in-class and out-of-class learning activities.

Purpose: To describe students' learning experiences of the flipped classroom activities, supporting learning environments and barriers to learning out comes.

Methodology: Descriptive qualitative research was employed. Participants were seven first year graduate nursing students enrolled in the Advanced Pathophysiology and Pharmacology in Midwifery course. Three main active learning activities were: 1) participating in before class activities, 2) Practicing in class activities, and 3) checking understanding and extending after class learning outcomes.

Results: Students who learned using a flipped classroom approach had positive experiences, achieved learning outcomes, and were satisfied with case analysis activities. Supporting learning environments were appropriate handouts, adequacy of learning materials, active involvement, interesting case study, and prior knowledge and experiences. Learning barriers were too much class work and activities in all courses and printed documents in English language.

Conclusion: The flipped classroom was effective to enhance students' competencies in application of theoretical knowledge, critical thinking, and problem solving skill. It should be utilized in nursing education with a well-designed and well-prepared scheme to flip the class in appropriate courses.

Keywords: *Flipped classroom,active learning, graduate nursing students.*

Introduction

The flipped classroom has been proposed as an educational innovation for teaching method instead of traditional lecture. It comprises of in-class and out-of-class learning activities. Educators can design a variety active learning approaches including sources of theoretical content prepared for studying before class, effective class participation, and promotion of extended application of knowledge after class. The main purpose of flipped classroom strategy is to motivate students to transform from being passive learners to be more active and self-directed learners.[1] Then, flipping the classroom offers a new and interesting approach that can be applied in various courses.

Some research has provided evidence of the effectiveness of the flipped classroom in enhancing students' learning outcomes. In medical education, students engaged in the flipped learning activities demonstrated higher problem-solving skills and longer

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knowledge retention.[2] In addition, participation in the flipped group-working results in improved application of new idea to design innovative project and enhanced critical thinking and academic argument skill.[3] Moreover, implementation of the flipped classroom can support students' self-directed learning to achieve lifelong learning promotion.[4] Students also favor participation in the flipped classroom through small group discussion and case –based study rather than traditional lectures[5].

Prior research revealed that implementation of the flipped classroom can promote students' engagement in learning activities, improve understanding of theoretical contents and enhance expected learning outcomes. However, modification of its teaching and learning approach is in transition. Some students are comfortable with the traditional lecture class,while others are satisfied with active learner competency in the flipped classroom.[6] Appropriate model and teaching method to flip each course should be explored and evaluated. Little is known about the effectiveness of teaching and learning activities using the flipped classroom in graduate nursing education. Therefore, this study was designed to examine application of the flipped classroom in advanced pathophysiology and pharmacology in a midwifery course.

Research Methodology: In this study, descriptive qualitative research was conducted to investigate learning experiences, supporting environment for the flipped classroom and barriers to engage in the flipped activities. The study setting was the Faculty of Nursing, Prince of Songkla University, Thailand. Participants were seven graduate nursing students enrolled in the advanced Pathophysiology and Pharmacology in Midwifery course during the first semester of 2019 academic year. This project was approved by the Research and Ethics Committee of the Center for Social and Behavioral Sciences Institutional Review Board, Prince of Songkla University.

Implementation of the flipped classroom in this course was designed to include six sessions of the topic pregnancy complicated with medical diseases. Teaching and learning method comprised pre-class preparation, in-class activities, and after-class reports. For each class session, handouts including topics, learning objectives and expected learning outcomes, summary of contents, example of case studies, and videos were provided for the students at least 7 days in advance of class time. Moreover, related media were uploaded on the Learning Management System (LMS2@PSU). The students could access these learning materials online. In addition, they were advised to search and prepare supplementary resources before starting class. During in-class activities, the leader of each group of students conducted case study analysis and encouraged discussion using critical thinking and active learning process. Educators gave guidance and feedback on learned contents and achieved learning outcomes. In after-class activities, reports of case study analysis were revised and submitted for scoring and grading.

Data were collected using semi-structured interview guides. After complete implementation of the flipped classroom course, the students were asked to give in-depth interviews about their learning experiences, perceived supporting environment and barriers to success and satisfaction. Qualitative content analysis was employed to explore and synthesize the themes emerging from the findings.

Findings: The graduate nursing students participated in the flipped classroom activities in this course showed active involvement in pre-class activities, in-class activities, and after-class activities. Three themes of the flipped learning experiences were: 1) active preparing before class activities, 2) enjoying participation in in-class activities, and being satisfied with after-class outcomes.

Active preparing before class activities. The students had read the provided learning worksheets and had accessed online media. In addition, they prepared additional book chapter, articles and research evidence to support case study analysis and presentation. The student's experience was supported.

After knowing my assignment, cardiac disease in pregnant women. I read handout, topic objectives, and recommended reading. Then, I selected a case study from my experience to present in class. I also searched book chapters, journal articles and youtube videos. I planned to lead my case study discussion and asked for suggestions. (Student D).

Enjoying participation in class activities. During in-class activities, each group of students reported that they enjoyed participating in critical thinking, discussion, oral presentation, and sharing their learning experiences. Additional perceptions were reported:

I had experience in caring for a pregnant woman with

GDM. She had been admitted because of high levels of blood glucose, 250 mg/dL, and manifestation of diabetic ketoacidosis. This case was interesting because DKA is a rare complication in pregnant women. I was curious to understand its pathophysiology and to compare it with theoretical knowledge. I searched many papers in order to explain and support my presentation of case analysis. My friends and I had learned from a real case. I had fun with this in-class learning. (Student A).

During after-class activities, nursing students were responsible for summarizing and submitting the case study report on time. In addition, they stated their satisfaction with the designed flipped classroom activities in this course. Student's perception was supportive.

I intend to do my best in presentation of case study analysis. My topic was preeclampsia in pregnant women. I prepared and read many papers in order to understand its pathophysiology. My classmates were willing to participate in discussion because most of them were familiar with this disease. After presenting, I summarized a case discussion and prepared a report to submit on time. My friends and I were satisfied with these learning experiences. We had learned and could understand the provided case. (Student B)

Perceived support for the flipped learning environments included that for: 1) appropriate handouts, 2) adequacy of learning materials, 3) interesting case study, 4) active involvement, and 5) prior knowledge and experiences. Students expressed their perceptions about learning environments that were offered to support the flipped classroom as follows:

My teacher told us about the flipped classroom preparation on orientation day. Then, we had topic handouts, objective of case analysis, and some suggested reading and references. We could search for additional book chapters and articles in the libraries and online databases at PSU central library, medical library, and nursing library. Selected case studies were interesting because they were common problems or high risk conditions that affected maternal and child health outcomes. On presentation day, my friends actively participated in discussion and gave additional examples of cases from their own experiences. Moreover, we had clinical experiences in caring for pregnant women with these pathophysiological conditions. Therefore, we could present and learn in class together. (Student C, D and E).

However, there were some barriers encountered in the flipped classroom that included 1) much course work, and 2) documents in English language. The students' reflections were addressed.

The flipped classroom was our new approach. We usually preferred to have lecture in class. In this semester, we were assigned to do many learning activities in order to achieve expected learning outcomes. We had limited time to spend for each subject and topic. In addition, book chapters and articles required for using in class discussion and report were printed in English, which took more time to read and get understanding. Some of us were not good in English, therefore it was difficult to flip the class in unfamiliar topics. (Students F and G).

Discussion

The study found that application of a flipped classroom in advanced pathophysiology and pharmacology class is more effective than traditional lectures in improving critical thinking and utilizing theoretical knowledge in case analysis. Satisfying and enjoyable engagement in the flipped classroom activities could be achieved if the students were informed about the purpose, rationale, and the benefits of this approach.[7] The students were active in preparing before-class activities as assigned because they understood the philosophy and requirements of the flipped classroom.[8] During implementation of in-class activities, all students should learn to use critical thinking skill to analyze and discuss the case study,and give suggestions to the class. This competency could be achieved because they received learned contents from a variety forms and sources.[8] Therefore, the leaders of each group could integrate their prior knowledge and experiences with the new concepts and learning approach.[9] As a result, the students were satisfied with their active involvement in the flipped classroom activities and learning outcomes. These learning experiences and competencies could cultivate their further lifelong learning motivation.[10]

These positive learning experiences in the flipped classroom were achieved because many supporting facilities and resources were prepared and offered in both before-class and in- class management. First, the philosophy and principles of teaching and learning in the flipped classroom model should be communicated to the educators and students.[11] Then, appropriate handouts should be included learning objectives, summary of learned contents, and suggested readings were outlined

and distributed to the students. Third, adequacy of learning materials and resources including examples of case study, book chapters, journal articles, videos, and related media should be provided and recommended. Therefore, the students could pay attention on in-class activities and focus on the expected learning outcomes of the course.[12] Having active involvement in the flipped classroom activities among classmates creates a supporting learning environment. Engagement and commitment to participation in the flipped classroom learning activities are considered to be students' autonomous responsibility that could enhance their self-directed learning competencies.[12] Fourth, interesting case study and other learning activities should be prepared in advance in order to allow adjustment or modification for appropriateness. Effective management of learning environments could create friendly, creative and comfortable situation.[13] Fifth, students' prior knowledge and experiences are essential background to support the flow of critical thinking and suggestions.[14,15].

Lastly, some learning barriers occurred during implementation of the flipped classroom in this course that included so many learning activities and limited English skills. The students perceived that they had a large amount of paper work and many class activities in all courses in this semester to which they had to pay attention and spend much time. This high workload resulted in 2 of 7 students experiencing exhaustion at the end of the semester. Another concern was the poor English skills. The students were assigned and recommended to read book chapters and journal articles printed in English. None of the students had passed the Prince of Songkla University Test of English Proficiency (PSU-TEP) in the first semester. They planned to register for the English class to improve their critical reading and other skills in the following semester.

Conclusion

The flipped classroom was implemented in the advanced Pathophysiology and Pharmacology in Midwifery course during the first semester of 2019 academic year. The students were active enjoyed and satisfied with before-class, in-class, and after-class activities. Expected learning outcomes were achieved because positively supporting learning environments were provided and administered in advance. However, some learning barriers were of concern these included many assigned learning activities in all courses and difficulty to do critical reading of English language materials. The findings reveal and support the effectiveness of the application of the flipped classroom in graduate nursing education.

Conflict of Interest: Nil

Source of Support: Faculty of Nursing, Prince of Songkla University, Hat Yai, Thailand.

Ethical Approval: Ethical approval was taken from Center for Social and Behavioral Sciences Institutional Review Board, Prince of Songkla University, Hat Yai, Thailand.

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Workplace Trust and Authentic Leadership as Predictors of Work-related Bullying among Staff Nurses

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Abstract

Background: Workplace trust is considered one of the most important factors for organizational success;trust can be achieved by authentic leaders when they are transparent and consistent toward their followers. Authentic leaders could make suitable work environment, where bullying doesn't occur.

Aim: Examine workplace trust and authentic leadership as predictors of work-related bullying among staff nurses. This study was carried out at Zagazig University hospitals, Egypt. For this research, a descriptive research design was used.

Method: A stratified random sample of 403 staff nurses were selected from the aforementioned setting. Three tools were utilized for data collection: Authentic leadership questionnaire, workplace trust survey and negative acts questionnaire.

Results: Proved highly statistically significant positive correlation between workplace trust and authentic leadership ($r=0.853$, $p<0.001$). Otherwise, workplace trust and authentic leadership were negatively and significantly correlated with workplace bullying ($r=-0.473$ & -0.519, respectively, $p<0.001$).

Conclusion: authentic leadership and workplace trust are negative predictors of work-related bullying. Therefore, it is recommended to develop and implement authentic leadership practices a strategy for eliminating work-related bullying.

Keywords: *Workplace trust, Authentic leadership, Work-related bullying, Staff nurses.*

Introduction

Trust is an important part in good-performing employees as well as in organizational relationships. [1]It can be described as having confidence and readiness to perform based on another person's actions, decisions, and words. Relationships based on trust convey feelings of safeness about the future, improves communication and cooperation among colleagues as well as between employees with their supervisor.[2] Workplace trust is known as the consistency between individual's perceptions of trust (with regard to organization, immediate supervisor and co-worker) and the individual's subsequent actions. Organizational trust refers to that employees have in the organization itself, as supportive work climate and openness when sharing information while trust in the immediate supervisoris understood as supervisors who listen to employees and appreciate their efforts. On the other hand, trust in the co-worker is conceptualized as collegial support, honest and appreciations for others work.[3]

Authentic leadership fosters subordinates' trust in their leaders.[4] It is a recent leadership theory that combines various traits, behaviors, and skills to foster honest and ethical behavior which subsequently creates positive outcomes for leaders, subordinates and organizations.[5] It is visualized as the base concept of positive leadership and perceived by followers as true honest to one's self with integrity and high moral norms.[1]

It has four elements; self-awareness, relational transparency, balanced processing and internalized moral perspective; Self-awareness refers to degree to which the leader view self, recognize own strengths and weaknesses, how others see him, and how he influences others while relational transparency refers to

demonstrating leaders' authentic self, their true thoughts and feelings to their followers.[6] Additionally, balanced processing is degree to which the leader analyzes all relevant information objectively before making a decision. Finally, Internalized moral perspective represents degree to which the leader is guided by internal values that results in decisions consistent with these values.[7]

Authentic leadership plays an essential role in allowing bullying to emerge in the work environment. Nurses are exposed to negative workplace acts that impact negatively on their job satisfaction and their mental and physical health.[8] It is considered a critical issue in nursing profession. Workplace bullying is defined as attacking, harassing and excluding colleagues socially or attempting to disrupt colleagues' work.[9] It can lead to high turnover, poor performance, low productivity and low commitment resulting in poor quality of healthcare.[10]

Significance of the study: Health care sector comprises a changeful working environment that faces a lot of challenges. Employees in this environment are often overloaded and carry out their work under negative circumstances due to a lack of proper leadership and inability of the employees to remain motivated. Workplace bullying is one of the most significant problems that face nurses in their today's work life.[11] On the other hand, trust is a key element in health care organizations; it provides a basis for cooperation and satisfaction among nurses.[1]

Nurses in Zagazig University hospitals face a lot of challenges such as limited resources, work pressure and attacking from patients' relatives. Authentic leadership plays an important role in building trust at workplace and decreases bullying. So it is hoped that this research will fill the gap in the body of knowledge about study variables and assist in minimizing workplace bullying.

Aim: Examine workplace trust and authentic leadership as predictors of work-related bullying among staff nurses.

Research questions:

- What are the relationships among workplace trust, authentic leadership and work-related bullying?
- Does workplace trust predict work-related bullying?
- Does authentic leadership predict work-related bullying?

Methodology

Design: To conduct this study, a descriptive correlational design was used.

Setting: This study was conducted at all Zagazig University Hospitals, Egypt, which includes two sectors involving 8 teaching hospitals providing free treatment; divided into two sectors; emergency sector included five hospitals; New-Surgery hospital, Internal-Medicine hospital, Emergency hospital, Delivery and premature hospital and outpatient hospital. El-Salam sector included 3 hospitals; Cardiac and Chest hospital, El-Salam hospital, and Pediatric hospital.

Subjects: Staff nurses working in the aforementioned setting with at least one year of experience.

Sample Size: It was estimated at confidence interval 95%, margin of errors 5.0%, a total population size of 2561 staff nurses, by using formula, provided by **Yamane (1967)[12]** [n= N/ 1+ N $(e)^2$]; the required sample size was 403 staff nurses. A stratified random sample was used.

Instruments:

Tool I: Workplace trust survey: Developed by **Ferres & Travaglione (2003)**[13] tomeasures the subordinates' trust in workplace(32 items) in relation to three dimensions; organization (11 items), coworkers (12 items) and immediate supervisor (9 items). Responses were measured on five point Likert scale ranged from 1 (Strongly Disagree) to 5 (Strongly Agree). Cronbach's alpha coefficient was 0.94.

Tool II: Authentic leadership questionnaire: Divided into two parts; firstly: personal characteristics of staff nurses. Secondly: Authentic leadership questionnaire: developed by Avolio et al., (**Bento and Ribeiro, 2013)**[14], consists of 16 items,grouped under four domains; transparency (5 items); moral/ethics (4 items); balanced processing (3 items) and self-conscience (4 items).Responses measured on five point Likert scale, from 1 (Strongly Disagree) to 5 (Strongly Agree). Cronbach's alpha coefficient was 0.96.

Tool III: The Negative Acts Questionnaire-Revised (NAQ-R): Developed by **Einarsenet al., (2009)**[15] to measure negative acts at workplace (22 items), grouped under three subscales; work-related bullying (7 items), person-related bullying (12 items) and physical intimidation (3 items).Responses measured

on five point Likert scale, from 1(not exposed at all) to 5 (highly exposed). Cronbach's alpha coefficient was 0.90.

Fieldwork: Data collection started in April till end of May, 2019. The researcher clarified the aim of the study to nurses either individually or through groups. Each nurse was given achance to complete the questionnaire under guidance of the researcher. The questionnaire took about 20-30 minutes to be completed.

Pilot study: It was carried out on 40 staff nurses (10% of the study sample), selected randomly and excluded from the main research sample to ensure clarity and applicability of the tools, and estimating time needed for completing questionnaire, the required adjustments were done.

Validity: After translation of the tools into Arabic;face and content validity was done by a jury of experts (5 professors) from the academic nursing staff at Zagazig University. According to their opinions, all required modifications were done.

Statistical analysis: It was performed using the Statistical Package for Social Science (SPSS), version 21.0. Data were presented using descriptive statistics in form of frequencies and percentages for categorical variables while means and standard deviations for continuous variables. Pearson correlation used for assessment of the inter-relationships among variables. Multiple Linear regressions used to assess the prediction effect.

Results

Table 1: Personal Characteristics of staff nurses (n=403)

Personal Characteristics	No	%
Age in Year:		
• ≤ 25	115	28.5
• 26- ≤ 35	198	49.2
• > 35	90	22.3
Mean ± SD	29 ± 5.7	
Years of Experience:		
• **≤ 5**	8821.8	
• **5- <10**	12130.1	
• **> 10**	194 48.1	
Unit :		
• Medical-surgical	288	71.5
• ICU	115	28.5
Gender:		
• Male	93	23.1
• Female	310	76.9
Marital status:		
• Single	113	28.04
• Married	290	71.96
Educational qualification		
• Bachelor	107	26.6
• Technical institute	210	52.1
• Diplome	86	21.3

Table (1) shows majority of staff nurses were female and working in medical-surgical units(76.9 %, & 71.5% respectively), their mean age was (29 ± 5.7). Additionally, about half of them worked more than ten years (48.1%).

Table 2: Distribution of Study Variables' Mean Scores as Reported by Studied staff nurses (n=403)

Variables	Maximum Score	Mean	±	SD	Mean Score %
I. Workplace trust					
• Organizational trust	55	35.61	±	9.29	64.74
• Supervisor trust	45	29.26	±	5.66	65.02
• Co-worker trust	60	43.74	±	8.74	72.90
Total score of workplace trust	**160**	**109.35**	**±**	**21.02**	**68.34**
II. Authentic leadership					
• Transparency	25	16.29	±	4.07	65.00
• Moral / Ethics	20	13.79	±	3.55	68.95
• Balanced Processing	15	10.59	±	2.32	70.60
• Self-conscience	20	13.66	±	3.32	68.30
Total score of authentic leadership	**80**	**54.33**	**±**	**11.14**	**67.91**

Variables	Maximum Score	Mean	±	SD	Mean Score %
III. Workplace bullying					
• Work-related bullying	35	21.63	±	4.51	61.80
• Person-related bullying	60	30.65	±	8.06	51.08
• Physical intimidation	15	7.58	±	3.04	50.53
Total score of workplace bullying	**110**	**59.87**	**±**	**13.94**	**54.42**

Table (2) demonstrates that, the highest mean score of workplace trust domains was for co-worker while the lowest was for organization (72.9 %, & 64.74%, respectively). Concerning authentic leadership, the highest score was for balanced processing while the lowest was for transparency (70.60%, & 65.00%, respectively). As regards workplace bullying, the highest score was for work-related bullying and the lowest was for physical intimidation (73.04%, & 72.96%, respectively).

Table (3): Correlations between study variables as reported by staff nurses (n=403)

Variables	Workplace trust		Authentic leadership	
	R	p	R	p
Authentic leadership	0.853**	0.000		
Workplace bullying	-0.473**	-0.047	-0.519**	0.000

** Highly statistically significant at p< 0.01

Table (3) displays highly statistically significant positive correlation between workplace trust and authentic leadership (r=0.853, p <0.001). Additionally, workplace trust and authentic leadership were negatively and significantly correlated with work-related bullying (r=-0.473** & -0.519** respectively, p <0.001).

Table 4: Regression Analysis to Study the independent factors affecting Workplace bullying among staff nurses (n=403)

Variables	R	R^2	Unstandardized coefficient		t	Sig.
			β	Std. Error		
Workplace trust	0.439	0.193	-0.297	0.030	-9.793**	0.000
Authentic leadership	0.520	0.271	0.582	0.089	-6.525**	0.000

** Highly statistically significant at P < 0.01

Table (4) confirms that, workplace trust and authentic leadership were negative predictors of work-related bullying; workplace trust was responsible for 19.3 % of the variation in workplace bullying(R^2 = 0.193, p= 0.000). Likewise, authentic leadership was responsible for 27.1% (R^2 = 0.271, p= 0.000).

Discussion

Workplace bullying, which has also been called psychological abuse, refers to continuous exposure to negative acts intended to humiliate, anger, sarcasm and cause stress.[16] Authentic leadership has special importance in a turbulent work environment because it offers stability by promoting clear directions for subordinates and needed to build trust in the workplace.[6] Therefore, the aim of this study was to examine workplace trust and authentic leadership as predictors of work-related bullying among staff nurses.

Concerning workplace trusts core, the highest was for co-worker while the lowest was for organization.

This may be explained as nurses always work in teams and develop a sense of cohesion within the team, therefore, they trust in their co-workers. In the same line, a study donein Germany by **Lehmann-Willenbrock & Kauffeld (2010)**[1]; found that, trust in co-worker mean score was the highest. Moreover, in South Africa a study carried out by **Coxen (2016)**[3]on public health care sector employees; emphasized the same results.

With regard to authentic leadership;the highest score was for balanced processing while the lowest score was for transparency. It may be due to importance of information to staff nurses, which the leaders pay attention when making decisions. This is in alignment witha study conducted in Philippineby **Roncesvalles (2015)**[2] who declared that the most perceived authentic leadership indicators are balanced processing and self-awareness.

In relation to workplace bullying;the highest score was for work-related bullying and the lowest was for physical intimidation. It could be due to the shortage of nurses which in turn lead to excessive work load and pressure, consequently, excessive work supervision and monitoring occurs to nurses. This is supported by a research conducted by **Laschinger(2012)**[8]on nurses in Canada, emphasized that work-related bullying was the highest score.

Regarding correlations between the independent variables;there was positive significant correlation between workplace trust and authentic leadership. This may be due to that,staff nurses who perceive their leader as authentic, consequently, it will increase their levels of trust. Similar results found by **Wong & Cummings (2009)**[4]who conducted a study in a western Canadian cancer care agency; showed positive correlation between authentic leadership and workplace trust. In the same line, **Ebrahim (2017)**[16] concluded that, there was correlation between authentic leadership and trust. Additionally,**Coxen (2016)**[3]and **Roncesvalles (2015)** [2]reported the same results.

In relation to the predicting effect; workplace trust and authentic leadership were negative predictors of work-related bullying. From researcher opinion, these results may be due to that,authentic leadership enhances positive morale and trust in the workplace, so it is reasonable that nurses, who view their leaders as authentic, will experience positive attitude in the workplace.

This result in agreement with **Laschinger(2012)**[8], who found that,authentic leadership was significantly correlated with work-related bullying. Additionally,in Egypt,a comparative study between private and public hospitals, carried out by **Elewa and El Banan (2019)**[17] who emphasized that, there wasa statistical significant negative correlation between organizational trust and bullying. Furthermore**,**in New Zealand, a study done by **Gardner (2016)**[18]who documented that, ethical leadership was negative predictor of workplace bullying.

Conclusion

Authentic leadership and workplace trust are negative predictors of work-related bullying. Therefore, it is recommended to develop and implement authentic leadership practices a strategy for eliminating work-related bullying.

Conflict of Interest: Nothing

Source of Funding: Self source

Ethical Clearance: Before data collection, the content of this study were approved by ethics committee and dean of the Faculty of Nursing, Zagazig University. Nature and aim of study were explained to nurses who participated in the study. They were given an option to discontinue the study at any time without explanation; all personal information was maintained confidential; they aren't forced to write their names. The responses were used for research purposes only and will be disposed of after publishing the research.

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Skills Laboratory Implementation Readiness and Associated Students Clinical Performance on Neonatal Resuscitation: A Cross-Sectional Study among Diploma Nursing Schools in Tanzania

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Abstract

Background: Skills laboratory is one of the most important components in nursing education as it bridges the gap between theory and practice among nursing students.

Objective: Assessment of skills laboratory implementation readiness and associated student's clinical performance on neonatal resuscitation among diploma nursing schools in Tanzania.

Methodology: The study employed quantitative approach, the study design was cross-sectional. The sample size was 384 students from four regions including; Dodoma, Manyara, Morogoro and Mbeya. Multistage sampling was used to select zones, regions, and district; while proportional sampling and simple random sampling were used to select students in respective schools. Data were collected through self-administered questionnaire, standardized checklist and OSPE checklist and analyzed by statistical packaged for social sciences (SPSS).

Result: The study had 384 participants' with 56.0% female and 46% male participants. Findings show that 55.6% school had inadequate requirement in terms of furniture, models and infection control requirements. 71.1% of the respondents had good performance on neonatal resuscitation with the mean score of 60.3 %. 60.9% had positive perception toward the use of skills laboratory, and it was found that there is association between SLIR and student clinical performance on neonatal resuscitation with (OR=3.822, CI: 2.306 -6.333, P= 0.000) and (AOR= 0.260, CI: 0.119-0.337, P= 0.001).

Conclusion: Most of nursing schools had limited requirements for skill laboratory implementation. The ministry of health training department should ensure that all government and non-government nursing institutions abide to the requirement set that they should have a well- equipped skills laboratory that will impact on students' performance.

Keywords: *Skills laboratory, Readiness, implementation, clinical performance.*

Introduction

Skills laboratory is one of the most important components in nursing education as it bridges the gap between theory and practice among nursing students; considering the fact that nursing is a practice-based profession(1)

In Africa, skill laboratories methodology introduced in 1999 by the Flemish developmental organization to improve clinical competence and quality of health care in system with changes in technology(2)

In Tanzania, all nursing schools are required to have skills laboratory in order to be accredited. The purpose of this is to enrich nurse students with wide range of clinical competence that will prepare them to meet Tanzania's identified health needs.Skills and competency obtained from skills laboratory training on neonatal resuscitation

could reduce neonatal mortality rate in Tanzania. It is estimated that there are 25 deaths in every 1,000 live births [3].26% of these deaths are caused by asphyxia and could be prevented by improving intra-partum care during delivery,[4]

A number of strategies have been initiated to overcome this problem, such interventions are like; Help Baby Breath (HBB), this program has been incorporated in nursing curriculum in Tanzania for the purpose of equipping nursing students with greater skills on neonatal resuscitation, so as to reduce the increase number of neonatal deaths, [5] Despite all efforts that have been done, a number of neonatal mortality due to birth asphyxia is still high, and it is responsible for 23% of neonatal deaths. Therefore, the study will focus on assessing skills laboratory implementation readiness and associated student's clinical performance on neonatal resuscitation among diploma nursing students in Tanzania.

Method and Material

The aim of this study was to assess institutional readiness on skills laboratory implementation readiness and clinical performance of students on neonatal resuscitation and its association among diploma nursing schools.

This research was a cross-sectional design used quantitative approach, the study population were 3rd year diploma nursing students from selected nursing schools. The researcher was interested in this population because, at this level students have already covered topics in the midwifery modules including neonatal resuscitation in NTA level 6. Furthermore, diploma nurses are the one who form the majority of nursing workforce in Tanzania. This work force is prepared to give direct care to the patients in reproductive health care including labor and delivery. Basing on this fact, nurses are expected to have enough skills on neonatal resuscitation hence reduce neonatal deaths in Tanzania.

Standardized observational checklist with 97 items categorized into nine categories, was used to assess the readiness of the institution on skills laboratory implementation; whereby the researcher checked for adequate or in adequate on each item. Standardized OSPE checklist with 25 instructions was used to assess the clinical performance of students on neonatal resuscitation in the skills laboratory whereby; one –four stations was set and a Scenario were made so as to make the participants know what they were supposed to do. The examination was scheduled for 7 minutes for each participant and they were supposed to show how to perform neonatal resuscitation on the fetal doll.

Data analysis: After data collection researcher used the statistical packaged for social sciences (SPSS) program for data entry, process and data analysis. Before data analysis, data cleaning was done to check for missing data, accuracy and completeness of information. Demographic information was analyzed using descriptive approach whereby percentage and frequency were measured and the results were presented using graphs and tables.

On analyzing perception of nurse students toward use of skills laboratory, there were 20 questions,and all were positive. Principle factor analysis used to categorize, those below the mean were recorded as negative perception and those above the mean were recorded as positive perception, also descriptive analysis was done and the results were presented by figures and percentage.

Chi square test was used to analyze all categorical data and binary logistic regression analysis was used to analyze the association's categorical data between with significant P-values.

Results

Demographic information of study participants: Data of this study were collected from nine Nursing schools in Tanzania. A total of 384 participants were enrolled in the study.

Skills Laboratory Implementation Readiness among Diploma Nursing Schools: It was found that; majority of the school were inadequate by 5(55.6%) with only 4(44.4%) had adequate requirement for implementing skills laboratory.

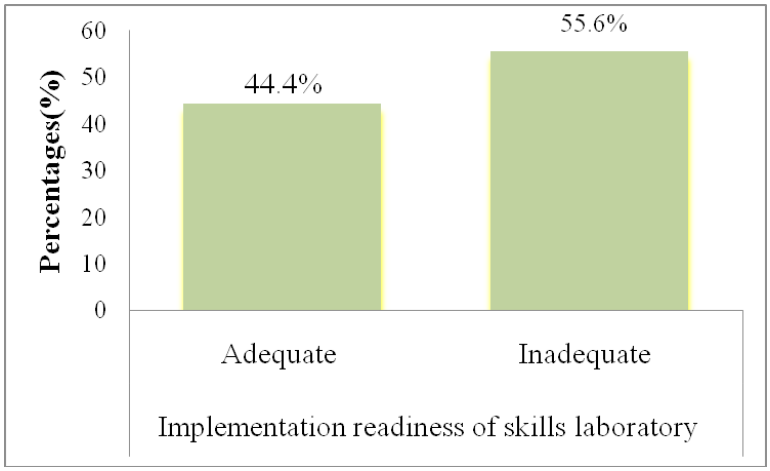

Figure 1: Distribution of requirements for skills laboratory implementation readiness among nursing schools (n=9)

Distribution of essential requirement for skills laboratory implementation at the institutions: It was found that majority of schools (colleges) had adequate requirements in term of general requirement for running skill laboratory, equipment for neonatal resuscitation (HBB), models, reproductive health requirements, availability staffs or personnel and laboratory maintenance by 8(88.9%), 5(55.6%), 5(55.6%), 5(55.6%), 5(55.6%) and 7(77,8%) in that order respectively. However, it was found that large number of school 7(77.8%) had inadequate equipment in term furniture and 5(55.6%) of schools with inadequate infection control equipments.

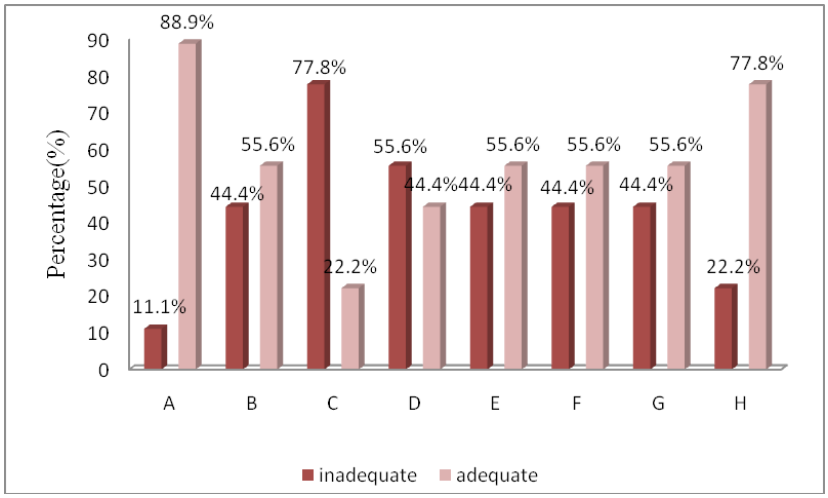

Figure 2: Distribution of essential requirement for implementing skills laboratory in the area where a study was done.

Key: A= General requirement for running skill laboratory, B= Equipments for Neonatal Resuscitation (HBB), C=Available furniture's, D= Infection Control equipments, E= Available models, F= reproductive health requirement, G= Staffs or Personnel and H= Laboratory Maintenance.

Clinical performance of students on neonatal resuscitation (HBB): Distribution of students' score from objective structured practical examination on neonatal resuscitation (HBB).

Table 1 shows that the mean score of respondents was 60.3 % with standard deviation of 17.7% of score and

medium score of 64%. Also majority of the participants scored 72% with minimum of 4% and maximum score of 92% respectively.

Table 1: Distribution of student score from OSPE on neonatal resuscitation (HBB)

Variable	Categorical variable	Measure of central tendency %
	Mean	60.3
Score on neonatal resuscitation	Median	64
	Mode	72
	Standard deviation	17.6
	Minimum	4
	Maximum	92

Distributions of level of performance on neonatal resuscitation were majority of them 137(71.1%), passed the examination while few of them 113(28.9%) had failed the examination.

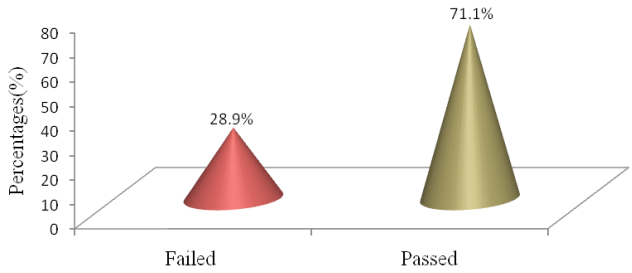

Figure 3: Distribution of students' level of performance from objective structured practical examination on neonatal resuscitation (HBB).

Association between demographic characteristics of the study participants with clinical performance of students on neonatal resuscitation (HBB): Association between institutional SLIR and performance in the neonatal resuscitation it was found that 74% of students who were coming from schools with adequate requirements were less likely to fail than those who were coming from adequate school (OR=3.822, CI: 2.306 -6.333, P= 0.000) and (AOR= 0.260, CI: 0.119-0.337, P= 0.001).

Association between resident area and performance on neonatal resuscitation, it was found that , students who were living in-campus were two times more likely to pass than those who were living off campus (OR=0.503, CI: 0.320 -0.791, P= 0.003) and (AOR= 1.921, CI: 1.224- 3.015, P= 0.005).

Also association between sex of the respondent and performance on neonatal resuscitation, it was found that female students were 1.4 times more likely to pass than male students (OR=1.663, CI: 1.065-2.596, P= 0.025) and (AOR= 1.486, CI: 0.928-2.365, P= 0.009).

Also association between nursing experience and performance on neonatal resuscitation, it was found that students who were pre-service were 28% less likely to pass than those who were in- service (OR=0.539, CI: 0.339-0.861, P= 0.010) and (AOR= 0.723, CI: 0.476-0.948, P= 0.004).

Table 2: Binary logistic regression analysis of the association between SLIR and demographic characteristics of the study participants with clinical performance of students on neonatal resuscitation (HBB)

Variable	OR	95% CI		P-Value	AOR	95% CI		P-Value
		Lower	Upper			Lower	Upper	
Institutional readiness								
Inadequate	Ref				Ref			
Adequate	3.822	2.306	6.333	0.000	0.260	0.119	0.337	0.001
Resident area								
Off- campus	Ref				Ref			
In-campus	0.503	0.320	0.791	0.003	1.921	1.224	3.015	0.005
Sex								
Male	Ref				Ref			
Female	1.663	1.065	2.596	0.025	1.486	0.928	2.365	0.099
Nursing experience								
Pre-service	Ref				Ref			
In-service	0.540	0.339	0.861	0.010	0.723	0.476	0.948	0.004

Discussion

Concerning skills laboratory implementation readiness, it was found that 55.6% of the schools had inadequate requirements for skills laboratory, in terms of furniture, infection control requirements, and equipment for neonatal resuscitation, charts and models. Besides, most of the schools were adequate in terms general requirements like: skills laboratory space, sink and running water, staffs/personnel and skills laboratory maintenance.

These findings could be due to the requirement of regulatory bodies' which insist that each nursing school should have a well equipped skills laboratory for them to be accredited.

The findings herein are similar with the study done by [6] which found that, there were inadequate physical environment like space, lack of equipment with the need to reuse the old and outdated equipment.

The findings presented in this study were found to be similar with the study done by [7] which found that skill laboratories do not have adequate space. Simulation equipment is inadequate and opportunity for individual hand on practice was also inadequate. In the study by Fortune, 79.5% of participants complained that duration and frequency of skill lab session was inadequate. However this study is incompatible with a study which was done by [2]at Bomet medical training college in Kenya which was found that majority of the respondents agreed that skill laboratory had equipment they needed. 84.4% of respondent agreed that skill laboratory trainers were knowledgeable; such different might be due to different in the method of obtaining the sample size.

Regarding clinical performance on neonatal resuscitation, it was found that 71.1% of students passed their examinations. These findings could be due to the fact that most of the schools had HBB kit at their skills laboratory and students had opportunity to practice their skills.

The finding of the current study is similar with study done by[8] in Kenya medical training college on innovative application of skill laboratory methodology. According to Amanya, majority of students (74.4%) were competent in doing neonatal resuscitation.

Conclusion

This study found that, Majority of the schools had inadequate requirements for implementation of skills laboratory, especially furniture and requirements for infectious control and prevention. Some of the schools were adequate in particular requirements like general requirements including adequate room and good environment. Furthermore, the skills laboratory has an important contribution in clinical performance among students. Students with adequate requirements for skill laboratory performed better from objective structured practical examination on neonatal resuscitation.

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Comparison of the Effect of Lecture and Self-Centered Learning on the Creativity of Nursing Students

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Abstract

Objectives: Creativity is considered as the base of educational evolution. Creativity can increase awareness and ability as an important factor in students .To determine and compassion of two education Program of verbal training and self-centered study on the creativity of nursing students.

Method: This semi experimental study was conducted on 80 second-semester students at nursing college in Kerman, Iran. Students were selected through available sampling. Before and after educational intervention, the students' level of creativity was assessed with questionnaires and data were analyzed with statistical-analytical tests and SPSS software.

Results: A paired t-test revealed that there was no significant difference in the score of creativity before and after the lecture educational method(p-value<0/36).The level of creativity in the self-centered learning group was significantly higher than that of students in the verbal training group(p<0/000).

Conclusions: The present study suggests a significant difference between self-directed learning and lecture groups so that a Significant increase in the score of creativity was observed in the self-centered learning group and the score of creativity is higher in the self-directed learning than in the verbal method of learning.

Keywords: *Creativity, education, Self-centered learning, lecture, nursing student.*

Introduction

Nursing is a profession that often encounters unexpected situations and involves taking care of patients with different backgrounds and health conditions, hence nurses need to go beyond routine nursing and acquire creative thinking to make beneficial decisions[1].

Creativity is a important skill that can increase the accelerated growth of science[2]. Studies show that creative students are more successful in the future[3]. Creativity is the ability to generate ideas and to solve problems with new and appropriate solution[4]. Creativity is a function of ideas, creative thinking, expertise and motivation. Therefore, the environment and the individual's conditions can reveal creativity. One of the goals and needs of student learning is creativity[5]. Assessing and applying various educational approaches seem necessary[6] they must provide the necessary facilities and requirements for developing the required skills and take responsibility for change. Education is one of the foundations for sustainable development[7]. It is clear that the use of various training method is beneficial[8]. But, choosing an appropriate educational method with the aim of learning is a teacher's art that should be well-versed in this field[9]. Self-Directed Learning is a Process in which individual initiates, in diagnosing their learning needs, formulating learning goals, identifying resources for learning, choosing and implementing learning strategies and in a systematic review study Chan & etals Writes that To promote creative thinking in nursing students, educators themselves need to be creative in designing courses that allow students to learn actively and convert thoughts into actions[10]. Educators should balance freedom and guidance of the students, and allow students to develop constructive and useful ideas. all of the educators who were trying to foster students' creativity, were moving away from traditional teaching. In fact, any education is flexible with creativity[11].

Traditional class room settings and instructions may inhibit students' creativity, whereas student-centered activities May be able to release creativity student-centered styles allow students to participate in learning experiences[12]. In self-directed learning, each student is responsible for his/her own learning activities[13] this strategy refers to the learner's degree of responsibility for his/her own learning[14]. self-centered learners demonstrate a greater awareness of their responsibility in making learning meaningful and monitoring themselves. student-centered learning aims are todevelop learner autonomy and independence[15].

Sajadi believes in his study with title"The impact of the learning contract on self-directed learning and satisfaction in nursing students in a clinical setting" that self-centered learning have allowed more success among nurses to develop professional goals, distance education, and education-based services[16].

Educational method are an important factor in enhancing or suppressing creativity. studies show that Families and educational systems who encourage student to be creative, they do more work correctly activities. Because care should be provided with the best quality and quality, Creativity is more attentive. Education is an important part of the readiness of individuals for their tasks. There are several method for presenting a lesson. One of these method is lecture. Lecture training requires the presence of the teacher and the learner together And they will communicate with each other. There is no mediator between them. Jafari Comparison of lecture and blended teaching method on learning and satisfaction of medical students in biochemistry course reported in his research that Lecture is less student satisfaction, learning and motivation[17].

Douglass & Moriss Write that self-centered study is one of the best ways to develop critical thinking that universities can use[18]. Student-centered learning is focused on the student's needs, abilities, interests, and learning styles with the teacher as a facilitator of learning. The aim of the study was to compare of the effect of lecture and self-centered learning on the creativity of nursing students.

Method

This research was a semi-experimental study conducted on the sophomore students of nursing school, Kerman University of Medical Sciences in 2019. This study was approved by the Research Ethics committee (IR.KMU.REC.1397.539). Students were selected through available sampling and divided into two groups randomly.

Sampling and sample size: Statistical Society Matches the number of samples to compare the effect of lecture method and self-centered study on nursing student's creativity. All students have agreed to participate in the study. They knew that they could go out of study whenever they wished. The 80 students in the two-year nursing school class were randomly assigned to either the lecture learning group(40)or the self-centered learning group(40).all of the research participants were completely voluntary. There were no significant differences in the demographic characteristics including age, gender,educational status. Teaching of both groups was performed by the same instructor, and educational content was similar in both groups. Educational content included the Environmental treatment, Stress and its types and method of coping, and self-concept. The aims of the study, procedure and instructional purposes were explained to the students.

Data collection: Abedi's creativity questionnaire was used to evaluate of creativity level of the students. The questionnaire is compromised of four scales: fluency (the number of ideas and solutions), originality (the rarity of ideas), elaboration (the number of added ideas, and the ability to develop and elaborate on ideas), and flexibility (the number of different categories of relevant responses being used). The questionnaire contains 60 questions with Likert scale. Since the participants were Persian, the Persian translation of this text was used. The validity and reliability of the test was confirmed for the context of Iran by Abedi[19]. The creativity levels were assessed immediately before and after lecture and self-centered learning.

Data analysis: The SPSS ver. 24 software (SPSS Inc., Chicago, IL, USA) was utilized. Descriptive statistics (frequency, percentage, mean, and standard deviation) were calculated. Kolmogorov-Smirnov test was used to examine the normal distribution of the data. Paired t-test signed ranks test was used to compare the mean attitude scores before and after the intervention. Independent samples t-test was used to examine the differences between the mean scores of creativity of the two groups. Confidence intervals were set at 95%, while a p-value <0.05 was considered significant.

Results

The mean age of the students was 20.4 (1.6) years. The results showed that, from a total of 80 nursing student, 71.8% were females. Chi-square test results showed that the two groups were homogeneous in terms of gender (P = 0.33). Based on paired-t test, there were statistically significant differences between lecture and self-centered learning groups in creativity of score after intervention (p<0/0000). (table 1).

Table 1: Results of paired t-test in comparison of creativity score before and after intervention In two groups

Creativity of Score	Mean(SD)	
	Lecture Group	Self-centered Group
Before the intervention	107/6±3/5	110/3±2/07
After the intervention	109±2/90	117±3/87
t	1/87	0/97
p-value	0/34	0/000
df	16	16

Table 2: Comparison of creativity dimensions in two groups

Dimensions of Creativity	Lecture group Mean (SD)		Self-centerd group Mean (SD)		P (Lecture)	P (Self-Centered)
	Before	After	Before	After		
Fluidity	30(2/57)	31(2/13)	31(1/12)	39(1/97)		
Expansion	21(1/80)	22(1/03)	22(2/2)	25(0/98)	0/23	0/000
innovation	31(2/5)	31(0/65)	31(2/34)	38(0/95)	Df =39	Df =39
flexibility	23(2/3)	24(1/5)	25(3/35)	32(1/06)	t = -1.6	t =5/6

The results of the table 2 show that the lecture method had no significant effect on any of the dimensions of creativity(p<0/23). The results also indicate that the self-centered learning has a statistically significant effect on all aspects of creativity. Especially the fluidity and innovation dimension

Discussion

The aim of this study was to compare the effects of lecture and self-centered learning on the creativity of nursing students. Many studies have been done with the aim of comparing lecture method of teaching with other teaching method on different variables. There was no significant difference between groups In demographic characteristics. The results of this study showed that the Creativity of score of students in the self-centered learning group was higher than the creativity levels of students in the lecture group (p<0/000) after the intervention. The study by Noh showed that self-centered learning, led to increased clinical competency and clinical practice satisfaction among nursing students in clinical practice[20]. The development of creativity are regarded as a valuable factor in the self-centered learning[21]. According to the research results lecture had no statistically significant effect on any aspect of creativity. While self-centered learning enhances all aspects of creativity especially the fluidity and innovation aspects. In other words, lecture training method didn't fully strengthen level of Creativity. Our results showed that the self-centered learning can improve Student Creativity Score. This finding is in line with similar results for example The results of the study of Yousefy & etals showed that self-centered learning has a growing trend, Because of the its benefits. He states that one of its benefits is innovation and creativity in practice[22]. Kosucu & etals study with Title" The Effect of Creative Drama Activities on Candidate Teachers' Self- directed skills"in 2017 On 35 teachers showed that teacher satisfaction increased significantly with self-centered approach and that the activities excited them and that they had an enjoyable time[23]. Devi & etal found that Self-centered Learning strategies were effective in stimulating thinking and understanding of the topics and to enhance the cognitive skills among the learners. This study was titled " Self-directed learning to enhance active learning among the 2nd-year undergraduate medical students in Microbiology: An experimental study" and performed on 96 medical students[24]. In a previous qualitative study in 2016 on nineteen clinical nurses working, with titled" iranian Clinical Nurses' Activities for Self-Directed Learning: A Qualitative Study their findings revealed that nurses' activity for

Self-centered Learning was sensory perception, self-evaluation, and suspended judgment they are included, active listening during care provision and ward rounds, careful observation of patients, colleagues, and physicians' behaviors, active listening, history taking, and participating in nursing and medical rounds[25]. Female students showed higher creativity scores than boys in the self-centered group($p<0/007$).The results of our study were similar to those of Abraham et al[26]. Girls have a higher creativity score than boys, because of their attention to content details. . The results revealed no correlation among age,Educational statuswith creativity score of two groups

There was no article that particularly looked at the impact of self-centered study on creativity: In summary, it can be concluded that a lecture alone is not significantly improved creativity of levels. Also, This study showed that the self-centered learning can increase the creativity score and therefore It can provide opportunities to innovate in future clinical situations and further develop clinical skills. Self-centered learning helps students to strengthen the learning processes.in this study,before and after method was used, because we avoided from confounding variables. But the lack of a control group was one of the limitations of this study. Another limitation was the limited population and not too many of the research units.It is recommended that this study be conducted with the control group and at a wider level.

Conclusions

Self-centered learning significantly raise the creativity students'. Therefore, it should be considered in educational planning and learning strategies to meet all of the educational goals and outcomes. a nurse who integrates creativity and innovations will find that it works as self-empowerment. And in fact with empowerment, the nurse would serve the best quality of care possible, and improve the outcomes.

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Correlations among Age, Parity, and Contraception Using with Pap Smear Results in Medan Sumtera Sumatera

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Abstract

Objects: To determine correlations among age, parity, and contraception using pap smear results.

Method: The study was a correlative descriptive. The independent variables are age, parity, and contraception using, while the dependent variable the result of pap smear examination. The samples were 60 respondents. Data were collected using a questionnaire and analysis using the Chi-Square test at an error rate of 0.05.

Results: There was no significant correlation between age and the result of a pap smear examination ($p>0.734$). There was no significant correlation between parity and the result of a pap smear examination ($p>0.204$). There was a correlation between contraception using and the results of pap smear examination $p<0.004$.

Conclusion: It is expected that health workers can improve education and health promotion about cervical cancer prevention by holding seminars or examinations of cervical cancer detection by doing pap smears, and women who have done pap smears with normal results can have repeat pap smears a year later, and abnormal pap smears can repeat. Pap smear again performed 6 months after the previous pap smear.

Keywords: *Age; Parity; Using contraception; Pap smear; Cervical cancer.*

Introduction

Cervical cancer becomes a problem for women in Indonesia. Cervical cancer causes the second death in developing countries with reproductive age. In Indonesia, there are 15,000 new cases with 8,000 deaths annually. This cancer is the most common in Indonesian women. It is estimated that one woman dies every hour[(1)].

To reduce the morbidity and mortality of cervical cancer prevention efforts need to be made, which consists of several stages, namely: 1. Primary prevention carried out at this stage is the promotion, education, and vaccination of HPV (Human Papilloma Virus). 2. Secondary prevention is early detection. 3. Tertiary Prevention is a treatment for cases that are found in early detection and prevent complications and early death[(2)].

Early detection in Indonesia is done by pap smear examination, colposcopy, kinescope, cervicography, spectroscopy, automated screening cytology, liquid-based cytology/thin prep, HPV tests, and visual acetate acid inspection (IVA) inspection method. Pap smear test coverage is estimated to be less than 5%. To fulfill this, an alternative Pap smear test with IVA is sought, which is expected to get wider coverage [(3)].

Pap smear is a simple and quick examination to determine the presence of abnormal cells in the cervix by taking a smear of cells in the cervix and then examined under a microscope to see whether or not the cells are abnormal. This examination can be done at any time, except during menstruation. All women who have had sexual intercourse are encouraged to have regular Pap smears, once a year/at least 3 years. For women who have gone through menopause, a Pap smear can be done until the age of 65 years[(4)].

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The risk factors of cervical cancer are women who have been active in sex from a very early age, contraception using, and having children more than five.

Method

This study used a cross-sectional study design with a study design by measuring or observing research subjects at the same time or once, measurement of independent variables (age, parity, and contraception using) and the dependent variable (results of pap smear) without a repeat visit. This type of research was descriptive correlative, which was research that aims to explain the relationship, estimate, test based on existing theories. In this study, researchers used a consecutive sampling technique with a total of 60 respondents. The research site in Medan, North Sumatra. By using a simple logistic regression test that was by connecting between several independent and dependent variables.

Results

Table 1: Frequency distribution base on variables

Variables	Frequency Normal Pap Smear	%	Frequency Abnormal Pap Smear	%	Frequency Sample	%
Age						
≤ 35 years	9	15	9	15	18	30
36-45 years	15	25	16	26.7	31	51.6
>45 years	4	6.7	7	11.7	11	18.4
Total	**28**	**46.7**	**32**	**63.3**	**60**	**100**
Parity						
≤ 2	13	21.7	21	35	34	56.7
>2	9	15	11	28.3	26	43.3
Total	**22**	**36.7**	**38**	**63.3**	**60**	**100**
Contraceptive using						
Hormonal	0	0	8	13.4	8	13.4
IUD	1	1.7	5	8.3	6	10
Non-contraceptive	26	43.3	20	33.3	46	76.6

Table 1 shows that the majority of samples aged 36-45 years were 31 people (51.7%) with normal pap smears as many as 15 people (25%) and abnormal pap smear of 16 people (26.7%). In parity ≤ 2 in the majority of samples were 34 people (56.7%) with normal pap smear results of 13 people (21.7%) and abnormal pap smear results of 21 people (35%). The majority of samples with contraception using were no using 46 samples (76.6%) with normal pap smear results of 26 people (43.3%) and abnormal pap smear results of 20 people (33.3%).

Table 2: Correlations among age, parity, and contraception using with pap smear results.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std.Error	Beta		
(Constant)	3.326	1.347		2.469	.017
Age	.037	.108	.051	.341	.734
Parity	-.149	.116	-.301	-1.288	.204
Contraception using	-.278	.091	-.395	-3.041	.004

Table 2 shows that the correlation between age and pap smear results with a t value of .341 and Beta 0.51 and a significant level of 0.734 means greater than 0.05 (p>0.05) meaning that there was no significant correlation between age and pap smear results. The correlation between parity and pap smear results with

a value of t=1.288 Beta -.301 and a significant level of 0.204 means greater than 0.05 (p>0.05) means that there was no significant correlation between parity and pap smear results. The correlation between contraceptive using and pap smear results with a value of t=-3.041 Beta value -.395 and a significant level of 0.004 means greater than 0.05 (p>0.05) meaning that there was a meaningful correlation between contraception using with pap smear results.

Discussions

The results of this study it was found that the majority of samples aged 36-45 years were 51.6% and more than the results of abnormal pap smears were 26.7 than the results of normal pap smears. The older a person is, the greater the risk of uterine cancer. The increased risk of cervical cancer in the elderly is a combination of the increasing length of time of exposure to carcinogens and the weakening of the immune system due to age. In adult women over 35 years old, the condition of the reproductive organs begins to undergo an aging process, and in theory it is explained that risk factors that can increase the incidence of women suffering from cervical cancer one of which is the age of pre-menarche and post-menopause Generally new mucosal cells mature after women aged 20 years and over. The peak development of cervical cancer is at the age of 47 years. About 47% of women with invasive cervical cancer are under 35 years of age when diagnosed. About 10%, cervical cancer occurs in older women (> 65 years) and tends to die of disease due to their advanced stage when diagnosed. So if a woman is having sex at teenage age, it is most vulnerable if it is done under the age of 16 years [(5)].

This study there was no significant correlation between age and the results of pap smear examination with a significance p=0.734; meaning that the study showed no significant correlation between age and pap smear examination results. The results of the study that showed no correlation between age and pap smear results were possible because the number of respondents who had normal pap smear results was greater at 36-45 years old, this result was also possible because cervical cancer is not only influenced by a single factor but multiple factors not examined in this study. Other risk factors were not examined because this study used a documentation study, where there was some information from the medical record data that was not filled out by health workers. Women who are prone to cervical cancer are those who are at risk (35-50 years). Although the facts show that there is a reduction in the risk of HPV infection with age, on the contrary, the risk of persistent/ persistent infection increases. This is thought to be because as we age, changes in anatomy and histology.

The results of this study found that the majority of parity history ≤2 is (56.7%) with abnormal normal pap smear results more than 35% than normal pap smear results. The higher the risk of suffering from cancer of the cervix in women with many children, especially with labor distances that are too short. A woman who often gives birth (many children) belongs to a high-risk group for cervical cancer, the higher the parity of the mother, the less good the endometrium. This is caused by reduced vascularization or atrophic changes in the decidua due to past labor, which can lead to complications in the reproductive organs. With the frequent birth of a mother, it will have an impact on the frequent occurrence of injury to her reproductive organs which ultimately the impact of the injury will facilitate the emergence of Human Papilloma Virus (HPV) as a cause of cervical cancer. In line with the results of Hidayat said that parity of more than> 3 is 16.03 times at risk of developing cervical cancer than people who have some parities <3[(6)]. Women with high parity are associated with cervical columnar epithelial eversion during pregnancy which causes new dynamics of immature metaplastic epithelium that can increase the risk of cell transformation and trauma to the cervix making it easier for HPV infection [(7)].

Hormonal changes during pregnancy may make women more vulnerable to HPV infection or cancerous growth. The risk of cervical cancer will increase in young marriages or first-time coitus, ie at the age of 15-20 years or in a dozen years and the latent period between the firsttime of coitus until cervical cancer is detected for 30 years. This is related to the maturity of mucosal cells in the cervix. At a young age, mucosal cells in the cervix are immature. That is, still vulnerable to stimuli so they are not ready to accept stimuli from outside. Including chemicals carried by sperm. Because it is still susceptible, mucosal cells can change properties to become cancerous. The nature of cancer cells is always changing at any time ie die and grow again.

The study showed no significant correlation between parity and pap smear examination results with significance p=0.204. The study measured the number of majority parity> 2. So that there are probably still many who fall into the category of having children 2 or more than 2, because the dangerous parity is to have

children more than 3 or the distance of pregnancy is too close, because it can cause the emergence of changes in abnormal cells in the cervix which can develop into malignancy [8].

According to the American Cancer Society (ACS) that women who have experienced 3 or more pregnancies in the full term have an increased risk for cervical cancer. Research has shown that hormonal changes during pregnancy may make women more vulnerable to HPV infection or cancerous growth[9].

The results of this study the majority of respondents did not use contraception by 76.7% and the majority with normal pap smear results of 43.3% and the remaining 33.3% with abnormal pap smear results. The use of hormonal contraception for more than 4 or 5 years can increase the risk of cervical cancer 1.5-2.5 times [10]. Taking a family planning pill for more than 5 years containing progesterone and estrogen harms the uterus, which is an infection in the uterus and allows a woman to suffer from uterine cancer [11]. It can be concluded that the use of contraception affects the incidence of cervical cancer. Oral contraceptives with high estrogen levels cause adhesions of Candida albicans which is a bacterium that causes flour albous. Candida albicans can cause adhesions in the vaginal epithelium and is a medium for fungal growth. Candida albicans develop well in a pH 5-6.5 environment, this change can be asymptomatic or cause infection.

The results of this study found there is a correlation between the use of contraceptives with the results of pap smear examination with a significance p=0.004. According to ACS states that the risk of cervical cancer is doubled in women who take birth control pills for more than 5 years, but the risk returns to normal 10 years after they stop. Combined oral contraceptives are a mixture of synthetic estrogens such as ethinylestradiol and one of several C19 steroids with progesterone activity such as norethindrone. This contraception contains a fixed dose of estrogen and progesterone. The use of estrogen can be risky because it stimulates the thickening of the endometrial walls and stimulates endometrial cells so that it changes properties[9].

Conclusion

The result showed that there was a significant correlation between contraception using and the results of pap smear examination with a significance p<0.004.

Suggestions: Health care provider, providing information to women of reproductive age, is recommended to use contraception so that the number of children can be limited and the birth spacing can be regulated properly. Health care provider gives information about contraceptive using so that women who use hormonal contraception can use non-hormonal contraception.

Conflict of Interest: Nil

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Strategies for Transition of Adolescents with Intellectual Disabities into Adulthood

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Abstract

Introduction: Transition of adolescents with intellectual disabilities into adulthood is a concern to caregivers and the society at large. Transition is still a challenge to health care and non-health care system. Studies on legal and ethical issues have been done regarding the care, treatment and treatment of adolescents with intellectual disabilities. Strategies for transitioning of these adolescents have not been given a priority.

Purpose: To develop strategies for transition of adolescents with intellectual disabilities into adulthood.

Method: A sequential exploratory mixed method was undertaken with 149 caregivers as participants informed the development of the strategies for transitioning from adolescence to adulthood. Multiple data collection method including individuals interviews, focus group and survey questionnaires were used to arrive at the findings.

Results: Five main themes emerged from the analysis as transition possibility, the role of different stakeholders, the provision and development of working skills, caregivers' knowledge and understanding of guidelines and alterations to adapt to changes.

Conclusion: The findings of this study indicated that the majority of caregivers working with adolescents with intellectual disabilities do not have the skill to effectively care for them. Hence, the developed strategies would provide caregivers with knowledge and skill to improve the care of adolescents with intellectual disabilities.

Keywords: *Adolescents; adulthood; development, intellectual disabilities; strategy, transition.*

Introduction

Previous studies indicate that adolescents with IDs rely on caregivers due to their limitations in cognitive, social, physical and emotional functioning[1]. On the contrary, according to the study conducted in Western Australia (WA)[2] due to improved health and technologies, the life expectancy of adolescents with IDs has improved and 17 in 1000 live birth accounts to the prevalence of intellectual disability. This implies that there is high population of individuals with IDS and therefore they need to be given much attention than any other population. In the African and South African context, individuals with IDS constitute 2-4 % of the general population, mostly have mild retardation, approximately 20% have moderate and 5% have severe and profound intellectual disability[3]. High percentage of mild to moderate intellectual disability is of significant value as this indicates that transition care is quite a possibility among these adolescents.

According to the study conducted in the United States there is a need for research that focuses on the transition care, self-perceived quality of life (QoL) and health outcomes of adolescents with IDs transitioning into adulthood[4]. [5]concludes that transition is a concept of significance in the context of health care context, it implies a shift, change, movement from one direction

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to the other levels such as the individual, group, organization, family or societal level. In this study, transition would mean moving and shifting from the current condition, stage, level, functioning, performance and capacity to the next positive level/stage. This requires healthy transition care as this study suggests.

Method

A mixed sequential exploratory mixed method was used to develop strategy for the transition of adolescents with IDS into adulthood. The first phase used qualitative phase followed by quantitative phase. A purposive and snowballing non-probability sampling method was used to recruit participants and recruitment period was from 2016 November -2017 June. Participants who were directly involved in the care, treatment and rehabilitation of adolescents were eligible to participate in this study. Caregivers such as teachers, district subject specialists, parents of adolescents with IDs, health care workers and managers were from special schools, Non-Governmental Organizations and governmental organizations Caregivers were from the age of 21 years irrespective of age, race, culture and ethnicity. Focus group interviews were conducted with health care workers and managers working in Non-Governmental Organizations.

Quantitative data was used to collect data form nurses, school nurses, psychiatrists, occupational therapists, physiotherapists and social workers directly involved in the care, treatment and rehabilitation of adolescents with IDs. Respondents were from special schools, non-governmental and governmental organizations. Most of the respondents were between the ages of 30-39 years, mostly black females.

Content analysis was used for qualitative data and SPSS25.0 was used with the quantitative data.

Findings: The Five main themes emerged from the analysis as transition possibility, the role of different stakeholders, the provision and development of working skills, caregivers' knowledge and understanding of guidelines and alterations to adapt to changes formed the strategies developed.

The proposed strategies developed provide information to be cascaded to different role players in order to equip them with knowledge, skills and attitudes that enables the transition of adolescents with intellectual disability into adulthood. Policy development leg will include a range of policies and procedures to be followed. In accordance with the policy guidelines for the child and adolescent mental health and Mental Health Care Act (MHCA No.17:2002), a number of policies has been instituted to protect and develop adolescents with intellectual disabilities. According to the MHCA, N0.17, 2002:Chapter II(3ai), the Act regulates that the mental health care should provide the best possible mental health care, treatment and rehabilitation services available to the population equitably and efficiently in the best interest of the mental health care users within the limits of the available resources. The need for prioritizing the provision and development of working skills was neglected. Transition possibility should be inclusive to all individuals with intellectual disabilities. The need for policy development that caters for the transition possibility to all should be prioritised and taken into considerations.

For the alteration strategy, a shift in focus from academic performance to development of skill is a necessity. Provision of institutions working with the IDS should emphasize the need for skill development interests of adolescents with ID. According to[6], staff should be in a position to offer skills that will assist individuals with IDs attain their highest potential and to be independent. In this study, most participants reported that they encourage individuals with IDs to be independent through empowering them with skills in order to make a living and to create wealth. This in turn will reduce the burden and dependence over social grants.

Participants emphasised on the need for active participation and independence. [7]supports that individuals with IDs need training to gain increased independence in everyday life.

Socialisation into the community will enable the community to accept and support these adolescents to achieve their potentials. People with disabilities are seen to be unproductive without any returns in investment[7]. Centres that are dealing with intellectually disabled children need to be productive through the development of projects that will benefit the community and public at large. Integration with business sectors is pivotal to ensure that the projects are more recognised and of great value. In accordance with ICF, there is a need for integrated approach that promotes needs assessment, treatment planning, education, training and social activities[7]. Individuals with IDs struggle with getting employment and community participation in adulthood[8-9].

Conclusion

The findings of this study indicated that the majority of caregivers working with adolescents with intellectual disabilities do not have the skill to effectively care for them. Hence, the developed strategies would provide caregivers with knowledge and skill to improve the care of adolescents with intellectual disabilities.

Previous studies recommended the need for research that considers transition process of individuals with IDs into adulthood as it is limited and needs further attention[10]. Therefore, the study proposes and suggests the provision and development of working skills as a means and ways to bring about positive change amongst individuals with IDs and their families. In conclusion, this study fills the significant gap on knowledge by identifying the strategy for transition of adolescents with IDs into adulthood.

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A Strategy for Effective Tuberculosis Contact Tracing in Botswana

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Abstract

Botswana has witnessed the highest TB rates in the southern African countries, ranking the fourth after South Africa, Swaziland, and Zimbabwe. In 2012, the TB rate was, on average, 531/100 000 population. About 2 380 contacts out of a possible 8 110 (amounting to 29.30%) were traced nationally (Botswana 2011:8), indicating a potential gap of 5 730, which was yet to be traced in 2011. The TBCT strategies might be inadequate leading to absence of screening and treating TB contacts and reducing PTB related deaths. The purpose of this study was to describe utilisation of current TBCT and develop a strategy for a more effective TBCT in Botswana. Data were collected through a quantitative cross-sectional research design. The study further described the association between TBCT strategies and practices and determined the gaps, challenges, and needs in the TBCT. Results revealed under-tracing of contacts in the number of registered and enumerated TB contacts. The results further established the risk of mixing TB contacts and general patients. The differences in the perceptions and knowledge of the cause of TB, as well as poor utilisation of the current programmes by the PTB patients, denotes the need for aggressive awareness-raising and health promotion strategies. The results were used to develop an alternative plan, the IC-TBCT, which has the potential to trace all TB contacts. The approach encourages participation, active accountability and involvement of the beneficiaries in all efforts aiming at early contact identification and reducing the incidence of PTB.

Keyword: *Integrated tuberculosis contact tracing; pulmonary tuberculosis; tuberculosis contact; tuberculosis contact tracing.*

Introduction

The basis of the severity of PTB was influenced by the magnitude of the disease reported by WHO that the global prevalence of TBHIV in 2013 was 13.0% and that 78.0% were in Africa, mainly sub-Saharan Africa (SSA).[1] Botswana witnessed high TB rates with 531/100 000 population on average in 2012, yet contact tracing accounted for 29.30%.[2] A gap of 5 730 needed tracing in 2011.[3] Kabongo et al., claimed that tracing was not immediate after identification of a TB patient[4]. Tracing strategies were inadequate and led to some absence of screening contacts.[2,5] Puryear et al., traced 163 cases in Gaborone and screened 548 contacts that yielded 2.20% new cases.[6] Puryear et al., suggested that to find one new TB case, the number needed to contact-trace was 13.6, and the number needed to screen was 46.[6] The current study attributed success rate to TBCT strategies and explored potential contribution of alternative TBCT to TB control. Deery et al., Shapiro et al., and WHO urged for the need for a more effective TBCT.[7,8,9] The Health Belief Model (HBM) by Rosenstock, expounded by Ayers et al., Carpenter; Cook et al., Ekwueme et al., Janz et al., Johari et al., Lubkin et al., Omotowo et al., and Parvanta et al., guided conceptual framework.[10,11,12,13,14,15,16,17,18,19] The study aimed to describe utilisation of current TBCT. It described organisational, knowledge, and implementation gaps,

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challenges, and determined needs for developing a strategy for effective TBCT. It constructed an alternative strategy that linked those factors and involved patients in TBCT.

Material and Method

A quantitative, cross-sectional design was used for its appropriateness, explained by Burns et al., and Creswell and the convenience to investigate TBCT.[20,21] It was economical and generated useful data for assessing tracing needs of contacts. It described interrelationships between TBCT strategies and current practice.

The study was conducted in Good Hope and Lobatse Health districts, Botswana. They were accessible among high TB prevalence areas and had adequate patients with PTB for sampling. New TBHIV cases ranged from 14 000 to 17 000 in 2014. According to WHO, the incidence rate of ≥ 0.04% was high.[22]

The study population included persons with PTB and contacts aged ≥21 years, healthy and consenting. The HCWs who worked in TB clinics were included. Persons aged <21 years, mentally ill, and non-consenting were excluded. The intended sample was 1 096 (548 cases and 548 contacts), determined using single population proportion formula. It used the proportion of patients with PTB with 95% CI and margin of error 0.05. It applied probability sampling using:

$$n = \frac{z^2\, p\, q\, D}{d^2}$$

A document checklist was used in phase I to observe the clinics. A structured interview was used in phase II for participants. Quantitative data were entered in MS-Excel 2013 spreadsheet and validated. Statistical Package for Social Scientists v20 was used to analyse data.

Findings: Of 427 patients with PTB, 58.3% (*n*=249) were males and 41.7% (*n*=178) were females (Table 1). The male-female ratio was 1:4. A majority (58.7%, *n*=251) of the participants were aged below 40 years. The median and mean ages were 37 and 40.9 years, respectively. Most of them were in single-cohabiting relationships 44.0% (*n*=188).

Table 1: Distribution of tuberculosis contacts traced by gender of patients with pulmonary tuberculosis (N=427)

Patients with PTB	Gender (%)		Total
	Male	Female	
At household level	41.0	29.3	70.3
At workplace	1.9	0.9	2.8
Not contact traced	15.4	11.5	26.9
Total	58.3	41.7	100.0

Majority (39.6%, *n*=169) of the participants had six to ten household contacts (Table 2), males being 23.2% (*n*=99).

Table 2: Distribution of contacts per patient with pulmonary tuberculosis in Phase II (N=427)

Contacts	Gender of contacts (%)		Total
	Male	Female	
Household			
None	5.9	2.3	8.2
1 – 5	5.9	3.5	9.4
6 – 10	23.2	16.4	39.6
11 – 15	9.8	9.1	19.0
16 – 20	7.5	5.2	12.6
Over 21	6.1	5.2	11.2
Total	**58.3**	**41.7**	**100.0**

Contacts	Gender of contacts (%)		Total
	Male	Female	
Workplace			
None	39.8	30.0	69.8
1 – 5	1.2	0.7	1.9
6 – 10	4.7	2.3	7.0
11 – 15	3.0	3.0	6.1
16 – 20	2.3	1.4	3.7
Over 21	7.3	4.2	11.5
Total	**58.3**	**41.7**	**100.0**

The household contact-case index ratio was 5.4:1 in Phase II (χ^2=13.459, df=5; p=0.665, 0.620 – 0.710). The workplace contact-case index ratio was 1.05:1 in Phase II (χ^2=17.855, df=6; p=0.398, 95% CI: 0.377 – 0.402). Majority (55.5%, n=237), mostly males (34.9%, n=149), reported that their contacts were not screened. From 1 539 contacts in Phase I, 48.3% were not screened (Table 3).

Table 3: Distribution of tuberculosis contact screening and outcome

	Outcome of Screening (%)				
	Screened	With TB	Without TB	Missed screening	Total
PHASE I (*N*=1 539)					
Household contacts	24.5	12.3	8.8	3.3	48.9
Workplace contacts	5.1	1.0	0.0	45.0	51.1
Total	**29.6**	**13.3**	**8.8**	**48.3**	**100.0**
PHASE II (*N*=2 344)					
Household contacts	17.4	8.2	28.3	0.8	54.7
Workplace contacts	5.5	0.7	26.4	12.8	45.3
Total	**22.9**	**8.9**	**54.7**	**13.6**	**100.0**

The household TB contact-case index ratio was 5.4:1 in Phase II and 1.05:1 for the workplace. The average NNT was 2.16. The most common barriers to TBCT included administrative processes (56.3%, n=9). One HCW stated, 'There is no register for… tracing, so I designed this for… follow-up'.

Conclusion

The current TBCT strategy does not effectively trace all contacts. Under-tracing of contacts resulted in missed opportunities for case finding and testing. The challenges included under-tracing of contacts, perceptions, and knowledge deficits about TBCT, stigma, syndemic TBHIV, community participation, communication, and transport. Stigma, fear of medication, and defaulter rate, peer alcohol consumption, smoking were the common barriers for the utilization of the TBCT.[23] The HCWs had gaps in TBCT training. The main findings in the study included the following: The under tracing of the TB contacts showed a gap for missed opportunities of TB case finding and testing. The household TB contact-case index ratio was 5.4:1 and 1.05:1 for the workplace and the number needed to contact trace is 2.16 on average. The current study shows a significant TB contact-case index ratio that must be addressed.

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Investigating the Health Information Literacy Knowledge of Health Care Students as an Essential Next Step in Medical and Health Professional Training

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Abstract

Health information literacy, the ability for individuals to access, evaluate and understand health information successfully and use it to make decisions regarding their health, is a growing subject of research. Widespread access to information particularly via the World Wide Web, has provided information seekers with unprecedented access to resources, however, there is also the potential for access to invalid material. This can especially be problematic for people who find and utilize harmful medical materials. In the medical field, there has been a marked shift toward evidence-based practice (EBP), meaning using valid evidence and reviewing the existing research to ensure that best practices are being incorporated and followed. Health information literacy has been described as a cornerstone and prerequisite to EBP. Healthcare practitioners with these skill sets should be better prepared to make clinical decisions and also guide patients to the best resources they need to understand their health condition. As such, health information literacy should be valuated and included in prospective health care professionals' training.

Keywords: *Information Literacy, Health Information Literacy, Health Care Training, Nursing Training, Medical Training, Electronic Health records, Evidence-Based Practice.*

Introduction

Health information literacy is described by the Medical Library Association as: "the set of abilities needed to: recognize a health information need; identify likely information sources and use them to retrieve relevant information; assess the quality of the information and its applicability to a specific situation; analyze, understand and use the information to make good health decisions"[1]. Described differently, health information literacy can be regarded as the ability of information consumers to comprehend medical information and use it to make their health care decisions[1]. The availability of non-peer reviewed and non-authoritative material has produced problems with reliability, as there has been a deluge of information published from sources for which trustworthiness remains in question. According to an IBM study, 90% of the information on the internet has been produced since 2016; in a different study it was predicted that medical knowledge in particular will double every 73 days by 2020[2,1].

Methodology

This article summarizes and references the results from a brief review of the literature related to "health information literacy" which is still a relatively new term, and was very scarcely referenced in the literature. The author used Google Scholar and the University of Wisconsin-Milwaukee (UWM) Library database because of access. This literature review started with a general search of "health information literacy" which returned 2,250 records via Google Scholar and 625 results using the UWM library catalog. This was a very large number of results, and since the search mechanisms scanned within the content, there were a large number of materials returned that contained the subject words "somewhere" within the text, but whose subject matter was not principally related to the information need. The search string was further limited to "health information literacy" NOT "health literacy" using Boolean operator "NOT" to further exclude"health literacy" articles since they are slightly different concepts. The new string

returned 1,040 records via Google Scholar and 319 results using the UWM library catalog. Ultimately, many of the articles still discussed "health literacy"; articles matching this phrase were excluded. Ultimately n=14 records were primarily consulted, and n=9 directly cited.

Discussion

Healthcare professionals are charged with having awareness of research that is multiplying very quickly[3]. It is necessary to address this growing body of work, since healthcare professionals, as well as, general health information seekers, need to understand how to navigate it[4]. Previously, limited access to healthcare information was a barrier to health information seekers finding and utilizing dependable material[5].At present, there is what can be considered much more accessibility; however, there is simultaneously, increased access to questionable resources[5]. Research has shown that clinical evidence versus non-reviewed information available on the internet, varies significantly, with the later showing significant association with false and even harmful material based on that study's findings[5]. As a result, it has been concluded that information seekers are at much more risk to find information lacking authority when using a search engine like Google in comparison to a library database[5]. The availability of peer-reviewed literature versus articles published on the Internet is differentiated by the former being expectantly reviewed by subject matter experts, while the later, can widely be published without examination, and even be published by unknown authors[5]. Investigators suggest it is important for information seekers to understand the limitations of completing a general search through a search engine[6]. Researchers have also found that health information seekers tend to place emphasis on finding information quickly, rather than evaluating the material they find[5]. It was also concluded that the volume of health information available does not always result in the ability of the information seeker to make an informed decision regarding their health[5]. While it may be true that not all peer-reviewed materials present correct conclusions, as it is common knowledge that there are revisions, health information seekers are arguably at greater risk of accessing detrimental information when relying on general Internet searches rather than using regulated materials[5].

Navigating the information landscape is vital to helping patients and to clinical practice as well[4]. Information deluge has been noted by practicing health care professionals in such areas as the electronic health record (EHR), and when seeking supplements for diagnosis and treatment[7]. In addition, healthcare professionals are largely expected to understand and implement evidence-based practice (EBP) whose steps are considered to include: understanding the question, locating information that will help solve it, reviewing the evidence, applying it, and reviewing the result(s)[4]. It is ever more critical for healthcare professional students to develop information literacy skills and the ability to integrate research into their practice, a goal that should ideally be attempted before they start practice[8]. Evidence has shown that students who partake in information literacy curricula perform better on health information literacy assessments, achieving higher scores, than those who do not[8]. The literature has shown that students lack knowledge associated with information literacy skills, and that students' self-reported knowledge of health information competencies does not necessarily match their performance[5,8,9]. The extant literature has also shown that health information literacy is a growing area of interest in the health field as indicated by the still growing body of research being published[9]. Investigators suggest that integrating information literacy into the nursing curricula will help students with understanding when information is needed, and with finding, reviewing, and using information resources[6]. Due to these evidences, this paper suggests that the health information literacy knowledge of students along the spectrum of the healthcare profession be evaluated by survey or questionnaire, in order to provide a benchmark to stakeholders who might be interested in addressing any knowledge gaps in the curriculum[6]. While there are many tests for evaluating regular information literacy, very few have been customized to evaluate health information literacy more specifically; this paper argues for the adaptation of existing information literacy instruments, or the creation of novel mechanisms for measuring these skills.

Conclusion

Health information literacy skills are very much needed by health information seekers in the present-day information landscape, which includes massive volumes of material and data. It is vital that gatekeepers of health information, such as health care professionals, use and assist patients with health-related evidences. Health care professionals might, for example, caution patients to wait to validate material located through general searches by seeking material that has been authenticated. Patients

could also be encouraged to interact with healthcare professionals to discuss their unresolved questions, and work with healthcare librarians, or other specialists, as a vital part of their research. Health care professionals should also be able to locate, evaluate and use healthcare materials clinically while meeting standards of practice that are evidence based; they should also have knowledge of how to successfully use medical databases. There are significant arguments that health information literacy curriculum be made formally and intentionally part of the competencies that future healthcare professionals are required to learn. Evaluation of health information literacy scores can begin to help stakeholders understand the extant skills or limitations of students' whom represent the future of the health field.

Ethical Clearance: Hereby, I, Kimberly N. Howard consciously verify that for this manuscript "Investigating the Health Information Literacy Knowledge of Health Care Students as an Essential Next Step in Medical and Health Professional Training" the following is fulfilled: 1) This material is the authors' own original work; it has not been previously published elsewhere. 2) The paper is not currently being considered for publication elsewhere. 3) The paper reflects the authors' own research and analysis in a truthful and complete manner. 4) The paper properly credits the meaningful contributions of co-authors and co-researchers. 5) The results are appropriately placed in the context of prior and existing research. 6) All sources used are properly disclosed (correct citation). Literally copying of text must be indicated as such by using quotation marks and giving proper reference. 7) All authors have been personally and actively involved in substantial work leading to the paper, and will take public responsibility for its content.

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Randomized Control Trial: Age of Presentation of Denver-II Test Items for Developmental Outcomes from Birth Till Infancy

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Abstract

Objectives: To compare growth and development outcomes in the interventional and control groups through infancy.

Methodology: This prospective, time series, randomized, partially blind, interventional controlled study was conducted from 1st June 2014 to 31st July 2016 at MGM Medical College hospital for Mother and Child Kalamboli, Navi Mumbai, India. Prior approval of the MGMIHS Institutional Ethics Committee was obtained. Inclusion Criteria: Full term newborns with normal vaginal delivery. Pregnant women with single full-term fetus and without any known high-risk pregnancy subjected to their written informed consent. 268 babies each in the intervention group and control group. Babies were randomized to either group, following computer generated random numbers.

Data Analysis: Demographic data was analysed by frequency and percentage. Unpaired t tests at respective individual percentiles of P_{25}, P_{50}, P_{75} and P_{90} of test items as per DDST-II.

Results: Growth and development at 4-6, 8-10, 12-14 weeks; at 6, 9 and 12 months of follow-up. Developmental milestones (DDST-II): Gross motor: Out of total 15 items found relevant under one year of age, the intervention group achieved individual milestones earlier than the control in 6 items and advanced in 3 more items. Language: Advantage of intervention group over control was maintained by I-SUC (Intervention) group in language domain too particularly at 4-6 weeks age (p=0.001) and at one year of age (p=0.005).

Fine Motor: Out of 12 items under the broad domains of fine motor development under one year of age, the intervention group achieved several milestones earlier than the control in 4 items.

Personal Social: The difference was highly significant at 9 months of age (p=0.005).

Conclusion: The I-SUC can safely replace DCC. The great advantage of consistently higher red-cell mass and hemoglobin level through-out in infancy in intervention group all through, on long term follow up till infancy was considered very encouraging.

Keywords: *DDST-II: Denver's Developmental Screening Tool, PCV: Hematocrit.*

Introduction

According to National Family Health Survey (NFHS-3) India, 79.2% children aged between 6 months and 35 months are anemic.[1] In the recent survey (NFHS-4), 36.6%under five children were found anemic still. Most of them are born to anemic mother was so common among 55% to 60% of expectant mothers in India (NFHS-4)[2]. Persistence of poor functioning of cognitive, motor[3], affective and sensory systems in children, who were anemic as infants, highlighted the need to study

innovative ways[4] to prevent iron deficiency in infancy. To explore the benefits and real risks involved if any following intact stripping of umbilical cord (I-SUC) at birth, the present study was planned comprising of term newborn babies and following them up for hemodynamic, neurodevelopmental outcome[5,6] and morbidity pattern throughout their infancy.

Objectives:

1. To assess the immediate neonatal outcome of stripping umbilical cord blood towards baby at birth.
2. To compare nutrition, growth and development outcomes in the interventional and control groups through infancy.

Methodology: This prospective, time series, randomized, partially blind, interventional controlled study[7] at MGM Medical College hospital for Mother and Child Kalamboli, Navi Mumbai, India., Navi Mumbai. It is the sole provider of maternal-infant care in the area and served as a referral hospital for the catchment area in Raigad district, Maharashtra. The selected site had birth rate of approximately 1,291 child births during the fiscal year 2013-2014. Out of 592 total deliveries,517 (87.3%) mothers had normal vaginal delivery with full term babies. Given a conservative 5- 8% loss to follow-up, it was expected that approximately 250 participants would be recruited in each arm in 12-month period. In the attached pediatric OPD, at least 100 children attend OPD daily. Immunization clinic is functional on three days a week (Monday, Wednesday and Friday) at MGM hospital Kamothe and three days a week (Tuesday, Thursday and Saturday) at MGM hospital Kalamboli. Mothers received the standard in-hospital antenatal and postpartum care. They all avail healthcare facilities which included patient care, immunization, breastfeeding support and health education provided by doctors and nurses at pediatric and postpartum unit. Home visits or telephone calls are made for those who fail to turn up for follow up on appointment days.. Moreover, there is a regular and daily pediatric OPD with facilities for immunization, growth monitoring and developmental screening[8] and nutrition advise under expert supervision in the hospital itself.

Inclusion criteria 1. Full term Neonates born by vaginal delivery to the mothers having undergone antenatal care at least three months in the same hospital as a booked case.

Exclusion Criteria:

1. Neonates born to mothers with very high-risk pregnancy such as PIH, Severe Heart Disease, Gestational Diabetes, DM2 Multiple Pregnancy, Rh-iso Immunization, Severe anemia[9], short stature, tuberculosis, cancer etc.
2. Birth asphyxia having APGAR score less than 7/10.
3. Meconium aspiration syndrome
4. Cord prolapse.
5. Very low birth weight[10] (less than 2000 gms) and IUGR.

Consent: Eligible, mothers were randomly allocated to the stripping of the umbilical cord towards the baby (Intervention group) or the standard routine care group (Control group) after obtaining informed consent of the expectant mothers in the obstetric ward before they were shifted to labour room for delivery[11-13]. The informed consent sheet was developed. English as well as Marathi and Hindi consent sheets were provided after translation and retranslation from English version prepared .

Randomization: To ensure confidentiality of the participants, the code number were recorded on a master information sheet that included the participant's name, telephone number, group assignment, and enrollment date; secured under lock and key with the labour room nurse in-charge on duty, to be decoded after tabulation of the result on completion of the study. Recruitment of cases conducted daily from 8 am to 8 pm to avoid operator bias. Randomization[19] was achieved by computer generated random number table using the seed number 2004201601 for randomization schedule and use of statistical software SAS 9.1. Assignment of the participants to either of the groups was done by using computer generated randomized number sequence list into either intervention or control group in advance in consultation with statistician.

Procedure of the Main Study: This prospective time series randomized partially blind controlled study was conducted from 1st June 2014 to July 2016 (26 months) at the MGM Hospital for Mother and Child Kalamboli, Navi Mumbai. Pregnant women admitted to this for delivery with single full-term fetus were allowed to participate in the study subjected to their written informed consent. The Exclusion criteria was strictly applied to finalize the subjects. The screening

proforma was completed for every pregnant woman screened for enrollment of the baby after delivery to the study. A structured survey questionnaire was used to gather obstetric and medical history of expectant mothers. Baseline maternal data about age, drug history, parity, iron/folic acid supplementation, socio economic status, detailed medical history was noted for all women. Detailed obstetric history was taken from all participants to recognize any high-risk factor. A general physical examination and systematic examination including obstetric examination was done for all women. The diagnosis was noted as recorded by the in-charge obstetrician. There was no mention made in the neonate's chart about the randomization to prevent any bias. Demographic and outcome data were obtained from the medical records of the mother and their neonates. Baseline data of the neonate such as birth weight, sex, gestational age was recorded in all cases. The coded subject ID was assigned to the enrolled mother and baby pair by the labour room sister in charge for follow-up. **Follow-up for growth and development through infancy at 4-6 weeks, 8-10 weeks,12-14 weeks, 6 months, 9 months and 12 months of age were assessed Development milestones**: DDST-II (1) Gross motor, (2) language, (3) fine motor, (4) personal social developmental milestones till one year. The babies in the intervention and control groups were followed up for a period of one-year monitoring their further growth and development and Morbi ties if any, as they attended immunization clinics for polio, HBV, HIB, DPT, MMR doses. These intervals were selected as they facilitated mothers to get the babies for immunization to achieve maximum compliance on follow-ups. Their mothers were given timely reminder to the visit as per appointment date for subsequent follow-up personally and by telephones one week before and one day prior to the appointment date as reminder. Home visits were accomplished for those mothers who failed to get the baby for follow-up within four days of appointment dates. At each visit babies were assessed for growth by anthropometry developmental milestones by DDST-II, general physical examination and history of any inter-current infections.

Assessment of DDST-II: The mother was assured that this developmental assessment process would purely non-invasive and harmless, just to obtain an estimate of the child's level of development in four different domains. This test relied on observation of what child could do in front of the evaluator and also based on report of certain activities by a parent. One test item at each time is administered to avoid distractions.

Content Validity: The tool was prepared and given to 20 experts for scrutinizing for its adequacy and relevance. Individual evaluation reports obtained were from all pediatric nursing, obstetrical nursing, pediatrician, statistician, clinical psychologist.

Reliability of the Tool: Procedure in the DDST-II technical manual[14] was followed in letter and spirit to interpret the findings (whether pass or delayed (fail) or refusal /advanced) in presence of pediatrician and one more pediatric nurse standardized for intra and inter observer reliability coefficient is 0.872.

Results

Table 1: Comparison of intervention out-comes in gross motor milestones from birth to one year of age between control and intervention groups by z-score.

Gross Motor Development (9 months)	Pass (P)	Advance (A)	P+A=O	Fail (F)	Total (P+A+F)
Control	640	9	649	80	729
Percentage	87.79	1.23	89	10.97	50.13
Intervention	640	21	704	64	725
Percentage	88.2	2.89	97	8.82	49.86
P Value	0.779	*0.025	0.17	0.170	
Gross Motor Development (12 months)					
Control	621	7	628	84	712
Percentage	87.2%	0.009%	88	11.7%	49.79%
Intervention	635	15	650	68	718
Percentage	88%	2.08%	90	9.4%	50.20%
P value	0.4777	0.089	0.152	0.152	

Note: It is clearly appreciated that a higher proportion of babies passed and advanced for their age in gross motor mile stones than those in control group at all ages, serially and prospectively screened monthly from 1 to 3 months and thereafter every 3 monthly until one year of age. On the other hand, more babies failed in test items in the control group, as compared to intervention group. Such a difference was found to be highly significant at 8-10 weeks (p=0.006) and at 9 months (advanced for age p=0.02) of age.

Table 2: Comparison of interventional out-comes in language milestones from birth to one year of age between control and intervention groups by z-scores

Language (9 Months)	Pass (P)	Advance (A)	P+A=O	Fail (F)	Total (P+A+F)
Control	840	18	858	100	958
Percentage	87	1.87	89	10.43	49
Intervention	860	28	888	90	978
Percentage	87	2.86	90	9.20	50
P Value	0.865	0.155	0.362	0.362	
Language (12 Months)					
Control	380	6	386	64	450
Percentage	84.4%	1.33%	85	14.22%	49%
Intervention	410	6	416	37	453
Percentage	90.5%	1.32%	91	8.16%	50.1%
P Value	*0.005	0.992	*0.003	*0.003	

Note: Significantly higher proportion of babies in the intervention group passed in the language domain as compared to that of control group at all ages; particularly at 4-6 weeks (p=0.001) and at 12 months (p=0.005) of age. More number of babies in the control group incidentally were found delayed (Failed) in language domain as compared to the intervention group. The difference was statically significant right from 4-6 weeks (p=0.003) and at 12 months (p=0.003) of age**.**

Discussion

Developmental Milestones: Like growth monitoring, development assessment is very important component of monitoring neurodevelopmental skills in a child for early detection and early intervention if required. The second version of Denver Developmental Screening Tool (DDST-II) happens to be very popular. **DDST-II:** Since no Indian adaptation, suitable for Maharashtrian population was available, the original DDST-II items in all 4 domains were used in the present study. The Trivandrum developmental screening tool (**TDST**)[15] was adapted from DDST-II happened to be merely its abridged version, reducing the number of items to be tested in each domain at a given age for convenience of office practice. The pediatrician and one more pediatric nurse were made to observe to ensure intra and inter observer reliability **Gross motor domain:** Out of 15 items under the broad domains of gross motor under one year of age the intervention group achieved individual milestones (Items) earlier than the control in 6 items (Lifts head up 45-degree, head holding, chest up. Roll over, pull to sit–no head lag and sit without support). These were considered as major motor milestones under broad gross motor domain **Language:** Out of 14 items under the broad domains of language under one year of age the intervention group achieved individual milestones (Items) earlier in 8 items (Vocalizes, Ohhahh, laughs, turns to rattling sound, combine syllable, jabbers turn to voice, dada mamma specific) than those in control group. These were considered as major language milestones under broad language domain. **Fine motor development:** Out of 12 items under the broad domains of fine motor development under one year of age the intervention group achieved 4 individual milestones (Items) earlier than the control (Follow midline, hands together, regards raisin and look for yarn) .The intervention group was found at par with the control in achieving individual 7 items such as grasp rattle, rake raisin,pass cube, thumb finger grasp,bangs 2 cubes held in hand, put block in cup and reaches. **Personal social development:** Out of 11 items under the broad domains of personal social development under one year of age the intervention group achieved individual milestones (Items) earlier than the control in 4 items (Social smile, smile responsively, feeding self, play pat a cake).No study is available in literature to report such

an advantage on achieving developmental milestones conducted prospectively in term babies, followed up from birth through one year of age in a controlled study as ours.

Conclusions

Poor iron stores in the first year of life are known to harm the developing brain as myelination at hippocampus and cortical brain development are at peak. Persistence of poor functioning of cognitive, motor, affective and sensory systems in children, who were anaemic as infants, highlighted the need to study innovative ways to prevent iron deficiency in infancy.

What the present study adds?: I-SUC helps achieving various developmental milestones earlier than excepted as compared to the matched controls through infancy.

Role of Funding Source: There was no source of funding for this study.

Ethical Committee Clearance: Prior approval of the MGMIHS Institutional.

Ethics Committee: Administrative authorities of hospital had been obtained,vide Approval letter no. MGM /HIS/RS/2013/41 dated 28th March 2013.

Declaration of Interests: We declare no competing interests.

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Grit, Self-Regulation and Self-Efficacy as Predictors of Academic Procrastination among Nursing Students

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Abstract

In recent years, procrastination has become a central issue which is difficult to ignore. It is considered one of the most serious problems in educational settings. So the current study aimed to investigate grit, self-regulation and self-efficacy as predictors of academic procrastination. The study was conducted at the Faculty of Nursing, Zagazig University, Egypt, using descriptive correlational design. A simple random sample of 324 nursing students, were selected from the above-mentioned setting. Four tools were used to collect data for the study; Academic procrastination scale, grit, self-efficacy scale and self-regulation scale. Results revealed highly statistically significant correlations among grit, self-regulation, self-efficacy and academic procrastination where P- value < 0.01, also, grit, self-regulation and self-efficacy were predictors of academic procrastination (R^2 = 0.110, R^2= 0.290, & R^2= 0.659, respectively). It is concluded that grit, self-regulation and self-efficacy can predict academic procrastination. Consequently, it is recommended that faculty should raise nursing students' awareness about procrastination and provide a training program about self-regulation for them.

Keywords: *Academic procrastination, Grit, Self-efficacy, Self-regulation, Nursing students.*

Introduction

Moving from school to university brings many difficulties for students. Sometimes students perceive university life as negative and it affects students' motivation and performance[(1)]. Nursing students are challenged to think in a way that will prepare them for clinical practice in a complex environment and all these require them to do multiple academic tasks such as coursework, assignments and clinical work, therefore, there isn't time for anything else. Consequently,academic procrastination is considered an important risk factor for students' achievement[(2)].

Grit was found to be a protective factor against procrastination. It can be defined as a sense of strength, patience and persistence which helps the student to overcome challenges and establish long-term goals [(3)]. It consists of two sub-domains: perseverance of effort and consistency of interest. Perseverance of effort is visualized as the liability to overcome first failures to achieve the goal while the consistency of interest concentrates on student's tendency to achieve the same goals overtime [(4)].

Grit provides students with the ability to see a goal from start to the end[(5)]. It involves self-regulation, ability to make choices and engage in behaviours that will ultimately lead to success[(4)]. Self-regulation refers to the route which students can use internal and external cues to determine when to (initiate, maintain and terminate) their goal-directed behaviours. Shortage in self-regulatory behaviours will result in the avoidance of tasks [(6)].

Self-efficacy plays a critical role in nursing practice. It is defined as individuals' judgments of their abilities to organize and apply actions required in achieving certain types of performance [(7)]. Therefore students who have a high level of self-efficacy are more eager to learn, duplicate their efforts toward activities and may develop

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more effective strategies to overcome difficulties they face [8].

Academic procrastination is related to the academic environment. It involves knowing that students need to carry out academic tasks, such as making an assignment, writing a term paper, studying for exams or engage in daily readings, but;sometimes, they fail to do so within the expected time. This refers to that, most students frequently engage in procrastination during their faculty life [7]. It specifically, has a significant relation to lack of motivation to learn, lack of self-efficacy, disagreement with academic conditions and lower levels of self-regulated learning. On the contrary, procrastination can be a deliberate self-motivating strategy for persons who need intense levels of stimulation to be adequately motivated[2].

Significance: Achievement is one of the important concerns for nursing students. On the contrary, procrastination is one of the major challenges facing them. It creates many difficulties for students such as stress, poor performance and may even lead to withdrawal from the study [9]. In the faculty of nursing, students have a lot of assignments and term papers so they may habitually procrastinate. Academic procrastination is a risk factor for students' success and needs to be studied; therefore, the goal of this study is to investigate grit, self-regulation and self-efficacy as predictors of academic procrastination among nursing students. The findings of this study will assist fill in the gap in understanding academic procrastination.

Aim: Investigate grit, self-regulation and self-efficacy as predictors of academic procrastination among nursing students.

Research Questions:

1. What are the levels of grit, self-regulation,self-efficacy and academic procrastination among nursing students?
2. What is the relationship among grit, self-regulation, self-efficacy and academic procrastination?
3. Do grit, self-regulation and self-efficacy predictors of academic procrastination?

Methodology:

Design: A descriptive correlational design was used.

Setting: Faculty of Nursing, Zagazig University, Egypt.

Subject & Sample: Sample size was estimated by this formula [n= N/1+ N (e)^2] [10]; at confidence interval 95%, margin of errors 5.0%, a total population of 1743 nursing students, itwas 324 students, simple random sample.

Instruments:

The tool I: Academic procrastination scale: consisted of two parts; first: Personal characteristics of students. Second:Academic procrastination scale: developed by **Mccloskey** & **Scielzo**[11] to measure academic procrastination level (25 items),grouped under six domains; Psychological beliefs (5items); distractions (4items); social factors (3 items); time management (4 items); personal initiative (5items) and laziness (4 items). Responses were measured on a five-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. The reverse score for items number (1, 8, 12, 17 and 25). Score ≥ 80 indicates a high level of procrastination. Cronbach's alpha was 0.95.

Tool II: Grit scale: developed by **Duck worth et al.,**[12] to assess Grit level (12 items), divided into two domains; consistency of interest and perseverance of effort (6 items each). Responses were measured on five points Likert scale ranging from 1 (not like me at all) to 5 (very much like me). Score ≥ 34 indicates a high level of grit. Cronbach's alpha was0.765**.**

Tool III: Self-regulation scale: developed by **Brown et al.,**[13]to measure self- regulation level, consists of 63 items grouped under seven domains (as illustrated in table 2); each domain has nine items. The responses were measured on five points Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Score ≥ 192 refers to a high level of self-regulation. Cronbach's alpha was 0.91.

Tool IV. The generalized self-efficacy scale: was developed by **Schwarzer & Jerusalem** [14]to assess the general sense of perceived self-efficacy among students (10 items). Responses were measured on four points Likert scale ranged from exactly true (4) to not at all true (1). Level of self- efficacy is high if the score was ≥ 30. Cronbach's alpha was 0.85.

Fieldwork: The data collection took two months. The researchers explained the aim of the study to students through group meetings. Each student was allowed to fulfil the questionnaire under the supervision of the researchers. The time consumed to answer it was 25 minutes to 35 minutes.

Pilot Study: It was done before the collection of data to confirm understanding and applicability of the tools. Additionally, to estimate the time required for filling the questionnaire. It was carried out on 32 students (10 % of the sample). They were selected randomly and excluded from the main research results. Accordingly, the necessary modifications were done.

Content validity: After translation of the questionnaire into Arabic. Validity was established by a jury of experts (6 professors & assistant professors) from academic nursing staff, Zagazig University. Accordingly, the required modifications were done.

Ethical consideration: Before data collection, the content of this study was approved by the ethics committee and dean of the Faculty of Nursing, Zagazig University. Oral and written clarification of the nature and aim of the study has been explained to students who participated in the study. They were given an option to discontinue at any time without explanation; also,the researchers explained to students that they aren't forced to write their names with emphasis on the confidentiality of the information as it would be used for the research purpose only.

Statistical analysis: It was performed using the Statistical Package for Social Science (SPSS), version 21.0. Data were displayed using descriptive statistics. Pearson correlation was used for assessing inter-relationships. Multiple Linear inner regressions were used to investigate the predictors.

Results

Table (1): shows that, 65.7% of nursing students aged ≤ 20 years. Also, the highest percentages of them (26.6%) were in the third academic year.

Table (1): Personal characteristics of nursing students (n=324)

Personal Characteristics	No	%
Age in Year		
≤ 20	213	65.7
≥ 20	111	34.3
Mean ± SD	**20.21±1.30**	
Gender		
Female	234	72.2
Male	90	27.8
Academic Year		
First	74	22.8
Second	82	25.3
Third	87	26.9
Fourth	81	25.0
Working Beside Study		
Yes	55	17.0
No	269	83.0

Table (2): clarifiesmean score ofgrit, self-regulation, self-efficacy and academic procrastination (34.27±6.94, 194.37±24.69, 32.78 ±4.87 & 86.04 ± 13.58 respectively).

Table (2): Grit, self- regulation, self-efficacy and academic procrastination among nursing students (n=324)

Study variables	Mean± SD
Grit Domains:	
• Consistency of interest	16.48±3.98
• Perseverance of effort	17.78±3.32
The total mean score of grit	34.27±6.94
Self-regulation domains:	
• Receiving	25.55 ± 4.63
• Evaluating	29.00 ± 4.64
• Triggering	27.68 ± 4.23
• Searching	27.83 ± 3.66
• Formulating	26.44 ± 3.80
• Implementing	28.52 ± 3.93
• Assessing	29.33 ± 4.31
The total mean score of self-regulation	194.37 ± 24.69
Academic procrastination domains:	
• Time management	13.15 ± 2.44
• Laziness	13.72 ± 2.41
• Psychological belief	16.91 ± 2.71
• Distractions	13.36 ± 2.27
• Personal initiative	15.72 ± 2.77
• Social factor	10.56 ± 2.36
The total mean score of academic procrastination	86.04 ± 13.58
The total mean score of self-efficacy	32.78 ± 4.87

Table (3): demonstrates significant positive correlation between grit and self-regulation ($r = 0.769^{**}$, $p < 0.001$). Moreover, grit, self-regulation and self-efficacy were negatively and significantly correlated with academic procrastination ($r = -0.43^{**}$, -0.39^{*} & -0.81^{**} at $p < 0.05$ respectively).

Table (3): Correlations between study variables as reported by nursing students (n=324):

Study variables	Self-regulation		Grit		Self-efficacy	
	R	p	R	p	R	p
Grit	0.769**	0.000				
Self-efficacy	0.005	0.92	0.09	0.10		
Academic procrastination	- 0.39*	0.047	-0.43**	0.000	-0.81**	0.000

**Highly statistically significant at p< 0.01

Table (4): demonstrates that,grit, self-regulation and self-efficacy were predictors of academic procrastination, particularly self-efficacy was responsible for 65.9 % of the variation in academic procrastination compared to 29% for self-regulation and 11% for grit (R^2= 0.659, R^2= 0.290, & R^2 = 0.110, respectively).

Table (4): Regression analysis to study the independent factors affecting academic procrastination (n=324)

	R	R^2	Unstandardized coefficient		t	Sig.
			B	Std. error		
Grit	0.321	0.110	0.215	0.047	4.960**	0.000
Self-regulation	0.541	0.290	0.509	0.051	9.320**	0.000
Self-efficacy	0.812	0.659	2.263	0.090	25.00**	0.000

Figure (1): portrays that more than half of students had high levels of procrastination, self-efficacy, grit and self-regulation (67%, 52%, 55.5% & 53% respectively)

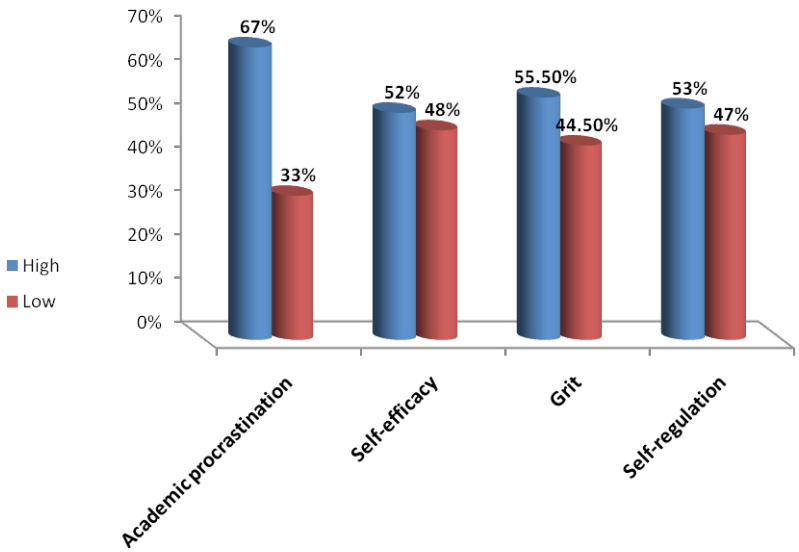

Figure (1): Levels of study variables among nursing students (n=324)

Discussion

University life is not only a vital part of students' academic development but also, it is an important element of their social integration to the society. During this time, students face different experiences which may prevent their academic growth. Academic procrastination is an important one of these experiences [15].It is an illogical postponement in performing academic [16]. It is a motivational problem with no easy solution; therefore this study aimed to investigate grit, self-regulation and self-efficacy as predictors of academic procrastination.

Concerning the level of academic procrastination; most students experience high level. The best rationale is the excessive assignments and term papers in addition to most of the students work beside the study that leads to excessive loads, therefore they habitually procrastinate.

In the same line, at King Saud University, **AlQudah et al.,**[17] found the same results.

Regarding grit level; more than half of students had a high level. This could be due to that; the majority of them had persistence and patience to overcome academic challenges. This result in agreement with **Kannangara et al.,** [18] conducted a study in the North-West of England; found the same results.

Concerning self-regulation level; half of the students had a high level. This could be related to differences in nursing students' academic years. This result is consistent with a study in Turkey carried out by **Erdogan**[19], found the same results.

As regard students' level of self-efficacy; more than half of them had a high level. This may be due to that, not all students enter the faculty of nursing on their desire but some of them enter faculty for employment chance. This result is in agreement with **Athiraet al.,** [20] who found the same findings.

Concerning correlation among study variables;grit, self-regulation and self-efficacy had negative correlations with academic procrastination. Also, there was a significant correlation between grit and self-regulation. Moreover, grit, self-regulation and self-efficacy were significant predictors of academic procrastination. The aforementioned results related tothe use of self-regulatory strategies by students feel self-confident to learn and understand can easily organize their academic duties rather than procrastinating it.

This result is consistent with a study done be **Kandemir**, [21],revealed that academic procrastination is related to self-regulation and academic self-efficacy. Also, a study carried out by **Vinothkumar et al.,**[22] found a correlation between self-efficacy and academic procrastination.

In the same line; **Littrell**[23] conducted a study at Chattanooga, demonstrated that; grit and course self-efficacy had a negative correlation with academic procrastination. Additionally, a study carried out by **Wejkum**[24] on psychology and nursing students, found that; procrastination was strongly negatively correlated with both grit and self-efficacy for self-regulation.

Additionally,a study in Tehran by **Ebadi & Shakoorzadeh**[25]; revealed that academic self-regulation predicts academic procrastination. Another study done by **Ocal**[a][15], in Turkey, found that Academic self-efficacy was a significant predictor of procrastination.

Conclusion

Grit, self-regulation and self-efficacy can predict academic procrastination.

Recommendations:

- Raising nursing students' awareness about procrastination.
- Design a training program about self-regulation to students.
- Educators must understand students' different capacities and hence must introduce subjects and topics in a way that all students can comprehend easily.
- Design syllabus in a manner that every student should be able to master the subject.

Further Research to: Identify the causes of academic procrastination among nursing students.

Ethical Clearance: Taken from the Ethics Committee and Dean of the Faculty of Nursing, Zagazig University.

Source of Funding: self-financing source

Conflict of Interest: No conflict for publication of the study.

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Nursing Student's Perceptions on Formative Assessment Procedures and its Effects on Midwifery Module Performance: A Cross-Sectional Study among Diploma Nursing Students in Tanzania

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Abstract

Background: The issue of low performance among student nurses is still a challenge in theoretical and clinical practice, insufficient use of formative assessment is among the contribution factors.

Objective: Assessment of nursing students' perceptions on formative assessment procedures and its effect on midwifery subject performance.

Method: A Cross-sectional study of 430, third year Diploma Nursing Students' from seven nursing schools was conducted in Kilimanjaro, Dodoma, and Morogoro regions. The approach was quantitative and a sample size was calculated and obtained using simple random sampling technique. Students' perception was measured by 18 questions from the tool adopted and modified from Vaessen(1), performance of students was reviewed and recorded using NACTE form No. 3. Descriptive and Principal Component Analysis used to analyze data of this study.

Results: Out of 430 respondents of this study, 221 (51.4%) had positive perception on formative assessment procedures. Also out of 430 respondents, 226(53%) had high performance in midwifery II module with the mean score of 69.85%. Moreover, the association between students perception and performance on midwifery module was not statistically significant($X^2 = 0.027$, p= 0.870)

Conclusion: Majority of students' reported positive perception on formative assessment; however, there were no association between perception and actual midwifery module performance, yet, students with positive perception performed high than those with negative perception.

Keyword: *Formative Assessment, students Perception, Performance, Midwifery Module.*

Introduction

Students' performance during learning process is governed by the ability of transferring learning and understanding how people develop important competencies. The use of participatory teaching and learning strategies and assessment practices, are the key components in classroom and clinical nursing education practice to determine good and poor student's performance Wiliam, (2018). Moreover, the central part for determining nursing students' performance and future competence mastery depends on frequent assessment and practice. This is based on accurate curriculum, professional teachers and teaching strategies which consider the learners' characteristics and culture(3).

Currently, students face number of academic challenges including low performance in theory as well as in practical. A study done in the United Kingdom on medical student motivation after failure revealed poor performance of medical students who tend to fail each year by 10-15%, in their course examinations. Literature suggest that without strategies, they will continue to fail for 10% yearly(4) argues that, with the introduction of formative assessment that emphasizes teacher student friendship, courage, and feedback provision it will lead to success in their performances.

Performances in schools stand as a concern in developed and developing countries. However a study conducted in India revealed that low performance is influenced by numerous factors including: attitude of students toward learning, teachers' skills and abilities, classroom environment,inadequate and irrelevant resources and leadership aspects as major contributions to low performances of students[5]

By the use of formative assessment the students' performance gap could be covered**,** this is according to Benjamin Blooms definition that,formative assessment is a diagnostic testing with range of formal and informal assessment procedures done by teachers during the learning process in order to modify teaching and learning activities to improve student's performances[6].

[7]briefly explained the history of the term formative evaluation by citing that, Michael Scriven (1967) was the first person to practice it. However, Benjamin Blooms was the first person to explain the importance of using formative evaluation in the classroom and its advantages to the learner's achievements. The Blooms idea was letter on supported by many researchers in their studies that revealed the success of the students evaluated through formative assessment compared to others not evaluated with formative assessment[8].

Pinchok and Brandt (2009) and the Southeast Comprehensive Center, (2012) in USA found that students exposed to formative assessment procedures with guided teaching and learning tasks, were having academic improvements and better learning characteristics such: as confidence, positive attitudes and good performance. The benefits of formative assessment procedures were evident almost in those who utilised it during teaching and learning process.

Formative assessment has principles that guide its use as it helps explain what good performance is. It has goals, criteria, and expected standard that enable the courage of self-assessment in learning. Moreover formative assessment brings high excellence evidence to students about their knowledge, it inspires teacher and peer argument about learning, encourage positive motivational beliefs and self-esteem, it offers opportunity to close the gap between current and anticipated performance and provide information to teacher which help to adjust teaching [10]. In Africa, Fakeye (2015) on the other hand, in his study about attitudes on formative assessment reported that, 66.7% of informants agreed that, formative assessment enhances learning and it leads to improved performance.

[12]reports that inadequacy of teaching staffs contributes by 29%, as well as ability of teachers to manage classroom contributes by 41% to students poor performances. Likewise, reports indicate that, enough time for classroom teaching contributes by 74%, as it is in inadequate relevant books in school library that contributes by 28% in poor performances. Literatures would further suggest that, unfavorable classroom contributes by 87%, and insufficient clinical instructors contribute by 22% of all failures.

Other factors that are associated with poor performances include the following: unfavorable clinical area that contributes by 59%, while unfavorable dormitories contribute by 59%. In addition, irregular clinical follow up and teaching contribute by 14%. Enough time to put classroom theory into practice in laboratory and clinical skills and feedback to re-teach and re-practice contribute by 44%, and poor implementation of formative assessment that contributes to 60% of all failures.

Literature report that poor performance of student nurses in clinical area remains as a challenge to their competency mastery in Tanzania. This argument is justified by the contributing factors such as poor or ineffective classroom teaching 7.3%, inadequate supervision by tutors 13.3%, unfair clinical assignment 29.2%. Other factors include: lack of competent tutors and clinical instructor 42.7% and students anxiety due to lack of competency 31.2% [13].

In 2005, Tanzania switched from summative assessment to both formative and summative assessment with the aim of bridging theory and practical gap. Dinho & Swai[14] in their study contended that 56% of nurse tutors involved in the study did not utilize clinical teaching strategies which in turn led to inadequate skills among student nurses. The paper further argues that, improper implementation of formative clinical teaching strategies leads to inadequate skills among student nurses.

Method and Materials

The aim of the study was to assess nursing students' perceptions on formative assessment procedures,and to assess diploma nursing students' performances in midwifery II module.

This research was a cross-sectional study with quantitative approach, third year Student Nurses who was been assessed formatively for all three years and had completed midwifery II module were the study population. A total of 430 third year students selected from seven nursing institutions in Tanzania mainland by using systematic sampling technique.

Student nurses completed Questionnaire of eighteen [18] questions with four points Likert scale from strong disagree to strong Agree and checklist NACTE F3 used to collect midwifery two students performance from their institution records.

The data were analyzed using SPSS version 20, using descriptive

Results

Distribution of demographic characteristic of study participants: The distributions of demographic characteristics showed in the following table including participants' age, sex, level of education attained before joining a college and caregiver who give fees, meals and accommodation.

Table 1: Shows the frequency distribution of demographic characteristics of third year student nurses (N = 430)

Variable	Variable Categories	Frequency (n)	Percentage
Institution Ownership	Government	165	38.4
	Private	265	61.6
Age (years)	<20	62	14.4
	20-25	299	69.5
	>25	69	16.1
Sex	Male	196	45.6
	Female	234	54.4
Level of education attained	Form four	241	56.0
	Form six	171	39.8
	Other	18	4.2
Care giver	Parents or guardian	321	74.7
	Sponsor	61	14.1
	Self	48	11.2
Motivation to join nursing carrier	Passion to save lives	326	75.8
	Stable job opportunity	76	17.7
	Good salary	23	5.3
	Failed to join other school	5	1.2
Nursing carrier was their choice	Yes	389	90.5
	No	41	9.5
The appropriate choice	First choice	262	60.9
	Second choice	131	30.5
	Third choice	18	4.2
	None	19	4.4

Level of Perceptions of Diploma Nursing students on formative assessment procedures: Perception of students on formative assessment were analyzed by principal factor analysis and those items weighted <0.3 were excluded. Descriptive analysis done where mean, median, standard deviations, minimum and maximum were obtained from the item weighted scores;- Mean and Standard Deviation -0474144+0.89586787, Median 0.1398904, Minimum -4.02188 and Maximum 1.46922.

Data were not normally distributed, hence median used as a cutoff point to categorize those students

who had negative perception < median and those who had positive perceptions on formative assessment procedures>median.

As shown in Figure 1, the students' perception on formative assessment procedures 221(51%) had a positive perception while 209(49%) had negative perception toward formative assessment procedures. however, the association between perception and performance was not statistical significant.

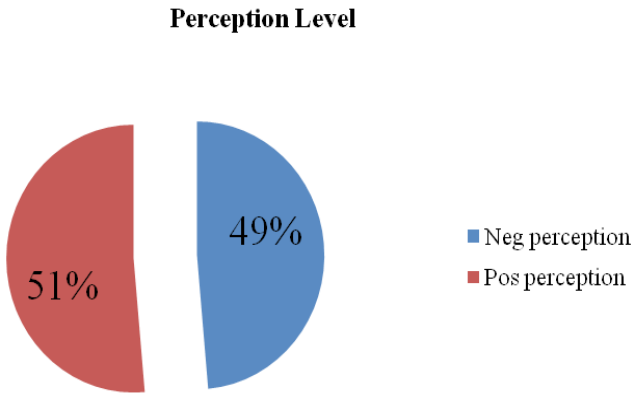

Figure 1: Level of perception of students on formative assessment procedures

Level of performance on midwifery module among nursing students: The data were normally distributed and mean categorized the level of performance. Those scored below the observed mean, categorically was low performance and the rest were termed as high performance. Majority of the students 226 (53%) had high performance and only 204 (47%) had low performance as shown in figure 4.3.4a.

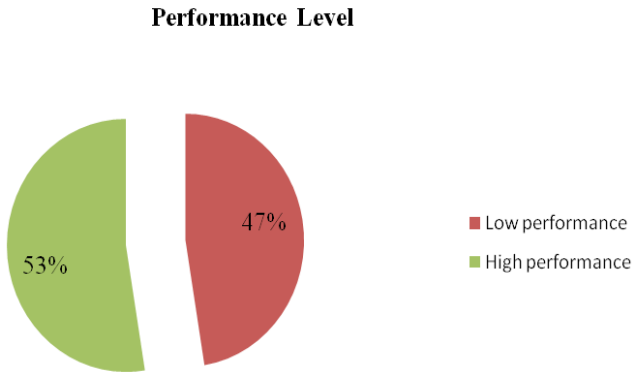

Figure 2: The level of performance on midwifery II among diploma nursing students

Association between students' perceptions on formative assessment with their performance in midwifery module

With respect to perception, a large number 100(47.8%) students who scored low performance were those with negative perception on formative assessment procedures while students with positive perception, were 104(47.1%) scored low performance compared to others, but the association was not statistically significant (X^2 = 0.027, P-Value=0.870).

Table 2: Association between perception on formative assessment procedures and other factors with academic performance in midwifery subject among diploma nursing students (N = 430, Chi-squire test)

Variable	Variable categories	Academic Performance in Midwifery Modules			
		High n (%)	Low n (%)	X^2	P-Value
Institution ownership	Government	120(72.7)	45(27.3)	43.680[a]	<0.001
	Non-government	106(40.0)	159(60.0)		
Number of Formative assessment	Only one	95(30.4)	217(69.6)	22.938	<0.001
	Two or more	63(53.4)	55(46.6)		
Education level	Form four	122(47.3)	136(52.7)	7.118	0.006
	Form six	104(60.5)	68(39.5)		
Age (years)	<20	23(37.1)	39(62.9)	7.214[a]	0.027
	20-25	163(54.5)	136(45.5)		
	>25	40(58.0)	29(42.0)		
Sex	Male	85(43.1)	112(56.9)	12.913[a]	<0.001
	Female	141(60.5)	92(39.5)		
Motivation to join nursing carrier	Stable job opportunity	31(40.8)	45(59.2)	10.796[a]	0.013
	Good salary	18(78.3)	5(21.7)		
	Passion to save lives	175(53.7)	151(46.3)		
	Failure	2(40.0)	3(60.0)		

Variable	Variable categories	Academic Performance in Midwifery Modules			
		High n (%)	Low n (%)	X^2	P-Value
Nursing carrier your choice	Yes	200(51.4)	189(48.6)	2.142[a]	0.143
	No	26(63.4)	15(36.6)		
Appropriate choice	First choice	140(53.4)	122(46.6)	1.722[a]	0.632
	Second choice	64(48.9)	67(51.1)		
	Third choice	10(55.6)	8(44.4)		
	Not choice	12(63.2)	7(36.8)		
Care giver and sponsor	Parents or guardian	179(54.9)	147(45.1)	8.013[a]	0.018
	Yourself	16(33.3)	32(66.7)		
	Others sponsor	31(55.4)	25(44.6)		
Perception	Positive perception	117(52.9)	104(47.1)	0.027[a]	0.870
	Negative perception	109(52.2)	100(47.8)		

Discussion

Perceptions of diploma nursing students on formative assessment procedures: Regarding level of perception of students on implementation of formative assessment procedures it was reasonably seen that more than half of the respondents 221(51%) had positive perception. These findings concurred with the study conducted in Turkey, by Ozan & Kincal, (2017) [15] on effects of formative assessment on academic achievement where majority of the study participants had good perception on formative assessment because it enables them to understand better and they used it to help each other.

Furthermore, the study found that, most students value formative assessment procedures during their learning, Majority of the respondents (about by 44.7%, and 63%), strongly agreed with the statements or items used to measure perception that they need formative assessment in their course to study regularly and stay motivated. The results confirmed that, without FA students would have gained less in the midwifery module by 30.1 percent. This results concur with a study by Vaessen et al.,[1] at University of technology in Netherlands in which majority of the respondents agreed that they need frequent assessments in their course to study regularly and stay motivated with loading factors of 0.706 and 0.668 respectively.

Nursing Students' Performances in Midwifery Module: In assessing formative assessment performance of diploma nursing students in midwifery module, the study found that most students passed their examination with only few failing. However, schools did not do practical test as part of formative assessment and therefore 312(72.5%) students had no practical test results.

In the final midwifery performance,most students from all schools passed their theory test examination with only 0.9% failing. These findings are compatible toa study done in eastern Tanzania by Masenga, (2015) and found that majority of the students scored very well in their continuous assessment and only 6% had average low performance. Moreover, the findings herein did not correlate with study done in India on the factors influencing academic performance that revealed student factors like students attitude and their former academic performance while school related factors was large number of students per class and parental factor respectively, [5]

Conclusion

The study revealed that students' perception on formative assessment practice affects student's performance, although the association was not statistical significant, more than half of the respondents in this study had positive perception on formative assessment procedures carried out on midwifery II module, that led to high performance of diploma nursing students on their final assessments.

Conflict of Interest: There were no conflicts of interest throughout the study period.

Source of Funding: The study was self-sponsored by the researcher.

Ethical Clearance: The researcher obtained

permission from the ethical clearance committee, institution board review of university of Dodoma and from principals of the respective nursing institutions. The researcher obtained individual consent from participants and confidentiality was observed. None of the participants' name was filled on the forms rather than code numbers were used to ensure confidentiality.

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A Study to Assess the Knowledge, Attitude and Perceived Barriers on Incident Reporting among Staff Nurses Working in a Tertiary Care Hospital, Ludhiana, Punjab

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Abstract

Background of the Study: The term 'adverse event' describes harm to the patient as a result of medical care. Patient safety event reporting systems are ubiquitous in hospitals and are a mainstay of efforts to detect patient safety and quality problems. Incident reporting is frequently used as a general term for all voluntary patient safety event reporting systems which rely on those involved in events to provide detailed information.

Aim: To assess the knowledge, attitude and perceived barriers to incident reporting among the staff nurses working in a tertiary care hospital, Ludhiana.

Methodology: A descriptive study was conducted in the month of May 2017 in Dayanand Medical College and Hospital, Ludhiana. A total of 60 staff nurses were selected by convenient sampling technique and 4 parts of tools were used for the collection of data. The tools included socio-demographic profile, Questionnaire to assess the knowledge, Likert scale to assess the attitude and a Checklist to assess the perceived barriers. Validity of the research tool was established under the guidance of research supervisor and other experts.

Result: Most of the staff nurses working in DMC & H, Ludhiana had average knowledge and positive attitude towards incident reporting and the co-relation of knowledge and attitude came out to be weakly positive.

Conclusion: The staff nurses had average knowledge, positive attitude towards the incident reporting. There was weak positive correlation between knowledge and attitude of staff nurses. Fear of legal action, too busy/ lack of time and fear of career/ personal reputation were the common perceived barriers by staff nurses regarding incident reporting.

Keywords: *Knowledge, Attitude, Perceived barriers, Staff nurses.*

Introduction

The term 'adverse event' describes harm to a patient as a result of Medical care. Hospital and Health Care Department must track and analyse instances of patient harm as a condition of participation in medical programme. Instance reporting systems are a common means that Hospital needs to use in this condition. Hospitals can demonstrate their compliance with this and all other conditions through a survey by State Survey Agency or Accreditation under an approved Medical Accreditation Program.[1]

Patient safety event reporting systems are ubiquitous in hospital and are a mainstay of efforts to detect patient safety events and quality problems. Incident reporting is frequently used as a general term for all voluntary patient safety event reporting systems, which rely on those involved in events to provide detailed information. Initial reports often come from the frontline personnel directly involved in an event

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or the action leading up to it (example – the nurses, pharmacists, or physician caring for a patient when a medication error occurred) rather than management or patient safety professionals. Voluntary event reporting is therefore a passive form of surveillance for near misses or unsafe conditions, in contrast to more active methods of surveillance such as direct observation of providers or chart review using trigger tools.[2]

The traditional event reporting system have been paper based, technological enhancement have allowed the development of web based systems and systems that can receive information from electronic medical records. Specialized systems have also been developed for specific settings, such as the Intensive Care Unit safety.[2]

Voluntary event reporting system need not to be confined to a single hospital or organization. The United Kingdom's National patient safety agency maintains the National learning and reporting system, a nationwide voluntary event reporting system and the MEDMARX voluntary medication error reporting system in the U.S. has led to much valuable research.[3]

At the National level, regulation implementing the patient safety and quality improvement act became effective on January 19, 2009. The Legislation provides confidentiality, privilege, protection for patient safety information when health care providers work with new expert's entity known as Patient Safety Organizations (PSOs).[4]

The Health Care Agency has also developed common format standardize definitions and reporting format for patient safety events in order to facilitate aggregation of patient safety information. Since their initial release in 2009, the common format has been updated and expanded to cover the broad range of safety events.[4]All hospitals are required to maintain a confidential event reporting system, existing voluntary reporting system have a shared interest in developing ways to compare benchmark and safety data. Health Care Agency will encourage use of the initial set of common formats in Hospitals in their internal event reporting systems and encourage other voluntary reporting systems to consider adopting the common format as well.

Material and Method

Research Design: The research design is a blueprint to conduct a research study, which involves the description of research approach, study settings, sampling size, sampling technique, tools and methods of data collection and analysis to answer specific research questions or for testing research hypothesis.

A descriptive design was used to assess the knowledge, attitude and perceived barriers among staff nurses.

Research Settings: The study was conducted in DMC & H, Ludhiana which is an autonomous institute of Medical education and research. The institute was established in 1964 in its Old Dayanand Hospital in Civil Lines, Ludhiana.

Now the institute is being run in its new building. "The new Dayanand Medical College and Hospital" in Tagore Nagar, Ludhiana. The hospital have capacity of 1326 beds which renders excellent services to all specialities such as in-patient and out-patient units of Surgery, Medicine, Gastroenterology, Oncology, Paediatrics, Psychiatric, Gynaecology, Orthopaedics, Neurosurgery, Burns, Plastic surgery, Urology, Cardiology, Skin, Eye, E.N.T department and Intensive care units, Emergency trauma units and Medical ICU and Surgery ICU.

Target Population: The target or the study population is the population which meets the criteria for inclusion stipulated by the researcher. The target population for the research study was staff nurses working in DMC & H, Ludhiana.

Sample Size: The sample size were 60 staff nurses working in DMC & H, Ludhiana.

Sampling Technique: Sampling is the process of selecting a portion of population to represent the entire population (Polit & Hungler).[9]

Convenience sampling technique was used to collect data from the staff nurses.

Inclusion and exclusion criteria

Inclusion criteria

The staff nurses who were:

- Available at the time of data collection.
- Willing to participate in the study.

Exclusion criteria

- Floating staff nurses.

Selection and development of research tool(s): The most important aspect of investigation is the collection of appropriate information which provides necessary data to answer the questions raised in the study.

So, the tool will be developed on the basis of

- Review of literature
- Consultation with the experts in the field of research and nursing
- An informal observation in the concerned area

Tool is divided into 4 parts:

Part A: Socio-demographic profile which included age, gender, educational qualification, work experience and training institute.

Part B: Self structured questionnaire to assess the knowledge of the staff nurses.

Part C: Likert scale to assess the attitude of the staff nurses.

Part D: Checklist to assess the perceived barriers among the staff nurses.

Major findings of the study:

- The findings of the study concluded that majority of the staff nurses i.e. 47 (78.33%) were in the age group of 21 – 30 years and most of them were females i.e.55 (91.67%).
- In case of educational status, most of the staff nurses were B.Sc. Nursing qualified i.e.40 (66.67%).
- Most of the staff nurses i.e. 38 (63.34%) were in the work experience group of 01 – 05 years and maximum were from private institute i.e. 52 (86.66%).
- Among the three variables which were under the study i.e. knowledge, attitude and perceived barriers, it was found that maximum of the staff nurses i.e. 35 (58.33) had average knowledge and 48 (80%) had a positive attitude towards incident reporting and fear of legal action i.e. 47 (78.33%) and too busy/lack of time i.e. 43(71.66%) were common barriers perceived by staff nurses regarding incident reporting.

In case of correlation of knowledge with attitude of staff nurses, it is found that there is a weak positive correlation between knowledge and attitude of staff nurses however it is statistically non-significant at 0.05 level of significance.

Conclusion

The present study revealed that a majority of staff nurses had average knowledge and positive attitude towards the incident reporting. Fear of legal action, too busy/lack of time and fear of career and personal reputation regarding incident reporting were three common barriers perceived by staff nurses. The study results revealed that there was a weak positive correlation between knowledge and attitude of staff nurses.

There was no association between knowledge and attitude with age, gender, educational qualification, work experience and training institute.

Ethical Considerations: This is a descriptive study. The data was collected unanimously and confidentiality of information was maintained. It was ensured that the study should not affect the subject in any way.

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Do Stress and Resilience among Undergraduate Nursing Students Exist?

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Abstract

Nursing students face developmental challenges as all other college students do and in addition experience unique stress due to exposure to clinical area that intensifies stress. These stressors can either contribute negatively and cause psychological harm or make them resilient. The aim of this study was to assess perceived stress and resilience levels of nursing students. There were 700 undergraduate nursing students studying in the college of whom 620 participants who gave their consent and fulfilled the sampling criteria were taken for the study. Perceived stress and the resilience scales were self administered to collect data from the study participants. The data obtained was analysed using both descriptive and inferential statistics. Study of perceived stress showed that 45.7% of them had severe stress. Study on resilience showed that 55% of them had low resilience. The study revealed a significant weak negative correlation ($r = -0.236$, $p = < 0.001$) between perceived stress and resilience. These findings suggest that resilience measures be adapted and made an intrinsic part of the educational program. This would give the students the needed strength and endurance to face the profession with confidence.

Keywords: *Perceived stress, resilience, education, profession, undergraduate nursing students.*

Introduction

Stress is a strain when you are faced with a demand that is either challenging or threatening. All individuals at all phases of life are exposed to stress and face varied challenges. But the most challenging period in one's life has been identified to be the adolescent and early adult period. According to research evidence students are stressed because of the crucial decisions that they are called to make on career and various other stressors that arise from academics, finances, lack of time management skills, unfamiliar environment, amount of work, student and teacher interaction etc.[1]

Nursing students too are called to face these stressors and in addition clinical stressors. These clinical stressors are due to procedures that they perform on patients that can harm them, realities of life like death and dying etc. The chaotic nature of health care itself coupled with these can have a cumulative effect on the psychological wellbeing of students.[2,3,4]. Unwarranted stress can be detrimental and can interfere even with academic performances and therefore investigating nursing students specifically in this set up can provide contextual understanding of stress among them.

On the other hand it is believed and acknowledged that there are those who also enjoy their work and find it satisfying despite stress and is said to have an element called resilience[5,6,7]. Psychologists explain this resilience to be the ability to keep bouncing back each time one is faced with stress. Study of resilience revealed that it is not an inherent quality but is developed over time when faced with challenges. Knowing resilience to be an essential quality that can buffer stress, help must be offered to develop positive emotions and coping strategies among nursing trainees which are very vital for professional growth.[8] This would certainly boost students general health and wellbeing, as it has the ability to nullify the

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effects of stress and promote adaptation. This would also help in the future sustain ability of nurses in healthcare.

Further stress and resilience of nursing students were thought to have a relationship with each other which showed that individuals who are highly resilient are less stressed than those who are not so resilient. This suggests that the impact of stressors is based on how it is perceived .Therefore the present study will help assess stress and resilience.[9]

Objectives:

- To assess perceived stress and resilience in undergraduate nursing students
- To determine relationship between stress and resilience in undergraduate nursing students
- To associate stress and resilience of undergraduate nursing students with selected demographic variables

Method

Design and Sampling: The study was conducted in a college of nursing that was attached for clinical experience to a multi-speciality tertiary care centre in South India. A quantitative approach with a cross sectional design was used to assess stress and resilience among undergraduate nursing students. The population consisted of 700 undergraduate nursing students studying in this college. Those who belonged to the baccalaureate program were 400 and diploma program were 300. About 620 undergraduate nursing students who consented to participate and fulfilled the sampling criteria were selected for the study.

Instruments: The instruments used for the study included demographic proforma, perceived stress and resilience scale.

Demographic Proforma: It consisted of age, gender, marital status, religion, type of family, type of community, medium of instruction at school, board of education completed, facademic school final exam and, current year of study, socio-economic status and co-morbidities if present.

Perceived Stress Scale: Perceived stress scale (PSS) was used to measure stress. Participants were asked to circle how often they felt or thought a certain way. The scale has 14 items with a 5 point rating scale (0=Never, 1=Almost never, 2=Sometimes, 3=Fairly often, 4=Very often). There are 4 items on the scale that are worded positively. The remaining ten items are worded negatively and reverse scoring was done for them. Interpretation of the scores of the perceived stress scale was done by calculating the median. Those above the median was considered as high level of stress and median below it as low level of stress.[10]

Resilience Scale: Resilience scale is a standardised scale that was used to measure resilience. It is a 25 item response scale that measures the degree of individual resilience which is considered a positive personality. All responses are scored on a seven point rating scale that ranges from one(disagree) to seven (agree). All responses are worded positively. Possible scores ranges from 25 to 175. According to the author of the instrument those who scored 130 or lower were considered to have low resilience and those with 160 and above were grouped to have high resilience. Those who scored between the range of 130 to 160 were considered to have medium resilience. [9]

Data Collection Procedure: The investigator met the participants class wise. The purpose of the study was informed to the participants and a written consent was obtained from them. Those who fulfilled the sampling criteria were given self administered scales to assess both perceived stress and resilience. The time taken to complete these questionnaires was about 15- 20 minutes. Ethical clearance was obtained from the institution research committee. The participants were assured that the information given would be kept strictly confidential and used only for the study purpose.

Results and Discussion

The study of the demographics revealed that majority of the study participants were in the age group of 20 – 22 years (65%). These findings are found to be consistent with the findings of the study done by on age (66.7 %) that was done on nursing students in Ghana. Gender distribution of females were high as 88% as nursing predominantly consists of female population. About 92% were single and 74% were Christians who hailed from nuclear families (84%). About half of them (57%) were from urban community. Approximately 74% had English as the medium of instruction and about 62% of them were educated in state board. The study also showed that 88% were from middle class families.[11]

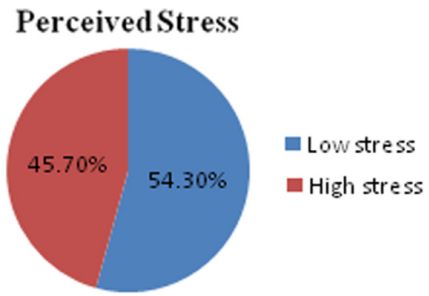

Figure 1: Perceived stress of the nursing students

The current study reveals that those who had high stress amounted to 45.7% as given in figure one. These findings are congruent with similar studies done among nursing students who showed high levels of stress.[12,13] This is true as they face both academic and clinical challenges during their study.

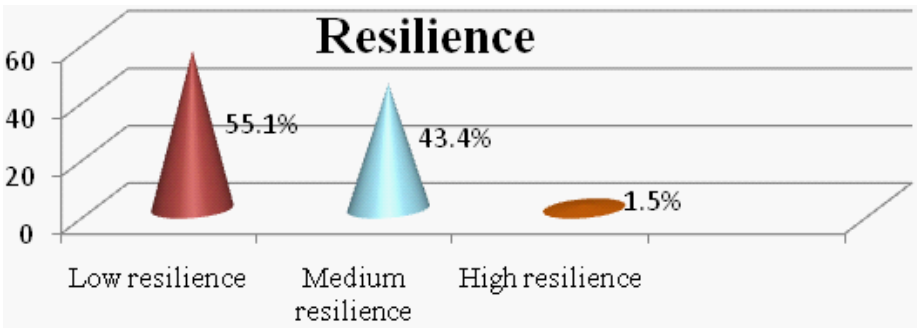

Figure 2: Resilience in nursing students

The present study of the undergraduate nursing students showed that only 1.5% of the nursing students had high resilience as presented in figure two. This contradicts the study done by others who reported that 50% of the students had moderate to high levels of resiliency. This is true as cultural differences exist among nursing students in the Indian context, where they are generally more timid and lack the needed coping strategies to encounter stress faced by them.[14]

Further analysis demonstrates that there is a significant negative relationship that exists between stress and resilience ($r = -0.236$, $P = < 0.001$). This suggests that as stress goes higher resilience becomes lower and vice versa and thereby influence each other. This is congruent with a similar study reported in the literature.[15,16] From this it is evident that resilience mediates perceived stress so that when students are all faced with the basic level of stress, the individuals protective factors determine whether the individual perceives the situation as stressful or not. On the other hand perhaps the individuals perception of stress mediates their resilience when the individual does not perceive situation as stressful and makes them resilient.

Current findings also indicate that there is no significant association between stress and resilience scores and the selected variables. These findings are consistent with similar studies done on stress and stressors in nursing students. It shows that immaterial of the students background based on various demographics they are more or less similar when it comes to enduring stress and developing resilience.[17, 18]

Conclusion

This study informs that stress is high and the fundamental element to counteract this stress called resilience is low. Although some amount of stress is necessary to perform daily tasks, when present in high amounts raises a concern. Knowing resilience being the key indicator for counteracting stress and protects the wellbeing of the students, there exists a huge need for it to be developed. Help can be offered to students to develop their own tool kit of strategies to cope. They should be taught to have positive self talk about the value they bring, making healthy lifestyle choices, having adequate rest, intake of nutritious food, exercise and play. Educators have a great responsibility to make them more resilient to face stress. They ought to make them more competent academically and clinically such that they face the future with confidence.

Conflict of Interest: None

Source of Fund: Self

Ethical Consideration: The study was conducted after approval by the college of nursing research committee. Permission of the dean was obtained before proceeding with the study. A written consent was obtained from all the participants, after informing them about the following:

- Purpose of the study
- Voluntary participation of the students
- Benefits
- Maintenance of confidentiality.

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