

ISSN-0974-9349 (Print) • ISSN-0974-9357 (Electronic)

Volume 17 Number 1 January-March 2025

International Journal of Nursing Education



www.ijone.org

International Journal of Nursing Education

<i>Editor in Chief</i>	Dr Latha Venkatesan	Professor cum Principal, College of Nursing, AIIMS, New Delhi
<i>Associate Editor</i>	Dr. Poonam Sharma	Principal, College of Nursing Teerthanker Mahaveer University NH-24, Bagarpur, Delhi Road, Moradabad-244001 (UP)
<i>Associate Editor</i>	Dr. Sahbanathul Missriya	Assistant Professor, Nursing Department, College of Applied Medical Sciences. King Faisal University, Alahsa, KSA

INTERNATIONAL BOARD

John Paul Ben Silang	Director of Nursing (Research), Women's Wellness and Research Center, Hamad Medical Corporation, Doha, Qatar
Dr Auwalu Muhammed	Senior Lecturer, -Department of Nursing Science, College of Health Sciences, UsmanuDanfodiyo University, Sokoto, Nigeria
Dr. Olufunke Bosede Bolaji	Senior Lecturer College of Medicine, Afe Babalola University Consultant Paediatrician /Neonatologist Federal Teaching Hospital, Ido-Ekiti.
Dr. S. Vasanthakumari	Associate Professor, Department of Pediatric Nursing, Institute of Health Science Wollega University Ethiopia
Nick Bakalis	Associate Professor Department of Nursing University of Patras, Laboratory Director, Laboratory of Research Methodology, Care Innovation - Education and Digital Health
Dr. Auwalu Muhammed	(RN, RM, PhD) Department of Nursing Sciences, Faculty of Clinical Sciences, Usmanu Danfodiyo University, Sokoto, Nigeria
Dr. Sijay Binoy	Lecturer - College of Nursing, Gulf Medical University, Ajman, UAE.
Yusrita Zolkefli	Assistant Professor of Nursing Ethics PAPRSB IHS, Universiti Brunei Darussalam, Tungku Link, Gadong BE1410, Brunei Darussalam
Sabrein Mahmoud Ali Khalifa Khattab	Associate Professor in Nursing Administration Department, Faculty of Nursing, Alexandria University

NATIONAL BOARD

Roopa Rawat Singhvi	Regional Nursing Lead (South East Asia), WHO Collaborating Centre for Emergency & Trauma Care, JPNATC, AIIMS, New Delhi, India.
Dr. Sameer Babu M	PhD, Associate Professor Department of Adult and Continuing Education and Extension Jamia Millia Islamia (Central University), New Delhi, India
Dr. Sonopant G. Joshi	Director – Symbiosis College of Nursing, Pune
Dr. Baskaram. M	PhD, Professor, Psychiatric Nursing Department, PSG College of Nursing, Peelamedu, Coimbatore-641004
Dr. Murali Chakravarthy	MD, DA, DNB, FIACTA, FTEE the Director of anaesthesia at the Fortis Hospitals (the erstwhile Wockhardt hospital and heart institute) Bannerghatta Raod, Bangalore Karnataka, India
Dr. Sangeeta Kharde	PhD, Professor and HOD, Dept. of OBG Nursing KLEU's Institute of Nursing Sciences, Belgaum.
Dr. Samruddhi Suresh Bhakare	Assistant Professor, Sadhu Vaswani CON, Pune, Maharashtra
Dr. Simarjeet Kaur	Assistant Professor, Nursing College, All India Institute of Medical Sciences (AIIMS), Bathinda.
Dr. S. Sridevy	PhD(N) Associate Professor, College of Nursing, Mother Theresa Post Graduate and Research Institute of Health Sciences Pondicherry

International Journal of Nursing Education is an international peer reviewed journal. It publishes articles related to nursing and midwifery. The purpose of the journal is to bring advancement in nursing education. The journal publishes articles related to specialities of nursing education, care and practice. The journal has been assigned international standard serial numbers 0974-9349 (print) and 0974-9357 (electronic). We have pleasure to inform you that IJONE is a double blind peer reviewed indexed international journal and is now covered by GOOGLE SCHOLAR and many other international databases.

© **All Rights reserved** The views and opinions expressed are of the authors and no of the International Journal of Nursing Education. The Journal does not guarantee directly or indirectly the quality or efficacy of any products or service featured on the advertisement in the journal, which are purely commercial.

Print-ISSN: 0974-9349, Electronic- ISSN: 0974-9357,
Frequency: Quarterly (Four issues in a year)
www.ijone.Org

Published at

Institute of Medico-legal Publications

Logix Office Tower, Unit No. 1704, Logix City Centre Mall,
Sector- 32, Noida - 201 301 (Uttar Pradesh)

Contents

	Page No.
Review Article	
1. Understanding First Aid Skills in Emergency Situations: A Literature Review <i>Irfanita Nurhidayah, Aklima, Riski Amalia, Mariatul Kiftia</i>	2
Original Article	
2. Effectiveness of Assertiveness Training on Self-esteem and Assertiveness among Nursing Students <i>Anuradha Kumari, Nanda Kumar Paniyadi, Priyanka Singh, Roshna Lytton, Dishani Harh</i>	9
3. The Relationship between Individual Characteristics and Work Environment with Nurses' Work Performance in Hospitals: A Cross-Sectional Study <i>Desi Yulastri, Hajjul Kamil, Fithria Fithria</i>	16
4. Nurse's Experience of Using Digital Support to Manage Work Related Stress at Pravara Rural Hospital: A Phenomenology Study <i>Heera Jayasheela, Rajendra Lamkhede, Kalpana Kale, Sangita Vikhe, Sanjeev Kulkarni, Helena Rosen</i>	23
5. Perception of Combine Method of Teaching on Learning among Student Nurses in Ebonyi State Nigeria: Lecture and Facilitation Methods <i>Ikwor Oyiri Juliet, Makata Ngozi. E, Odikpo Linda C, Ndubuisi Sunday F, Obende Eyito Beatrice. I, Uzoegbo Helen N.</i>	30
6. The Prevalence of Smoking and Associated Risk Factors among Students at Secondary School in Hodeidah Governorate <i>Mohammed Ahmed Suhail, Khaled AL-Selwi, Sadeq Abdo Mohammed Alwesabi, Khaled Mohammed Al-Sayaghi, Mogeab saeed Taha, Elsadig Eltaher Hamed, Ekwaleed Idris Ali Sagiron</i>	37
7. Nurses' Knowledge and Practice Regarding Patient Care Post Cardiac Catheterization at Selected Hospitals in Khartoum State 2023 <i>Mohammed Khalid Hussein Khalid</i>	44
8. Gap between Theory and Practice in the Nursing Education: Perception among College of Nursing Students in Kuwait <i>Delles Helen Emmanuel, Chitra Velloolikalam, Abeer William Aziz Saad, Marzieh Hosseini</i>	52
9. Facilitating Nursing Students' Clinical Education Continuity Utilizing Collaborative Critical Friendship Approach: A Quasi-Experimental Study <i>Siham M. Al-Momani, Yahya W. Najjar, Maissa' T. Shawagfeh, Alaa A. Bsool, Abeer A. AL-Zayyat, Maha D. Hdaib, Munadel R. Al-Khatib, Ayat Da'seh</i>	61

Understanding First Aid Skills in Emergency Situations: A Literature Review

Irfanita Nurhidayah¹, Aklima¹, Riski Amalia², Mariatul Kiftia³

¹Department of Emergency Nursing, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia,

²Department of Medical-Surgical Nursing, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia, ³Department of Maternity Nursing, Faculty of Nursing, Universitas Syiah Kuala, Aceh, Indonesia.

How to cite this article: Irfanita Nurhidayah, Aklima, Riski Amalia, Mariatul Kiftia. Understanding First Aid Skills in Emergency Situations: A Literature Review. *International Journal of Nursing Education* / Vol. 17 No. 1, January-March 2025.

Abstract

Background: Injuries can become emergencies and cause serious harm if not addressed properly. Understanding and readiness in early emergency handling skills are crucial to prevent the deterioration of the patient's condition. First aid is assistance provided to victims with the aim of preventing the situation from worsening before professional healthcare is available. This study aims to conduct a literature review to assess understanding of basic first aid in emergency cases.

Materials and Methods: This study uses a Literature Review method to collect and analyze data from previous researchers. Out of the total journals reviewed, 13 were selected based on the criteria of knowledge about first aid skills in emergency cases among laypersons.

Results: The review reveals that 2 articles indicate that the average respondent's knowledge and skills regarding first aid in emergency cases are categorized as poor. Five articles conclude that the average respondent has a good understanding of first aid in emergency cases, while 5 articles fall into the moderate or sufficient understanding category.

Conclusion: The literature study concludes that the basic understanding of first aid in emergency cases is generally still categorized as poor or weak and moderate or sufficient.

Keywords: First Aid, Understanding, Emergency Cases

Introduction

We often encounter emergencies such as accidents, drowning victims, fires, crimes, and so on. According to the WHO Global Status Report on Road

Safety, around 12 of every 100,000 people die in traffic accidents in Indonesia daily. Approximately 74% of those victims are riders of two- or three-wheeled vehicles.¹ Around 1.19 million people die each year

Corresponding Author: Irfanita Nurhidayah, Department of Emergency Nursing, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia.

E-mail: irfanita.nurhidayah@usk.ac.id

Submission date: September 3, 2024

Revision date: October 4, 2024

Published date:

This is an Open Access journal, and articles are distributed under a Creative Commons license- CC BY-NC 4.0 DEED. This license permits the use, distribution, and reproduction of the work in any medium, provided that proper citation is given to the original work and its source. It allows for attribution, non-commercial use, and the creation of derivative work.

due to traffic accidents. Traffic injuries are the leading cause of death for children and young adults aged 5–29 years. 92% of road traffic deaths worldwide occur in low- and middle-income countries, even though these countries have about 60% of the world's vehicles. More than half of all traffic deaths occur among vulnerable road users, including pedestrians, cyclists, and motorcyclists. Traffic accidents consume 3% of the gross domestic product in most countries.²

Indonesia is one of the countries with a relatively high rate of traffic accidents. Data collected by Masyarakat Transportasi Indonesia also shows an One of the most common causes of death for traffic accident victims is a lack of oxygen supply due to blocked airways. On average, a blocked airway takes less than four minutes to have severe consequences.

Even in areas with highly structured emergency services, the standard ambulance response time to traffic accidents is ten minutes. It is known that unless timely first aid is administered within this timeframe, many severely injured individuals will not survive.⁴and are predicted to increase if road safety is not addressed adequately by Member States. The World Health Organization (WHO).

This aid is not intended as perfect treatment or care but as temporary assistance provided by First Aid responders (medical personnel or lay people) who are the first to see the victim. First Aid is considered a crucial part of everyone's life. Everyone needs to know the basic methods and procedures required in emergencies. Learning basic First Aid skills is essential for everyone, regardless of age.⁵ Significant efforts have been made in education in recent years to understand the prevalence of various first-aid actions.⁶ However, most research has focused on teachers' knowledge.^{7,8}

Previous studies have found that increasing first-aid training reduces the rate of accidental injuries.^{9,10}with particular interest in the expertise and training of teachers and coaches, was explored. Replies were received from 333 (74%). Every minute, from the application of first aid to advanced care, can make the difference between life and death when emergencies occur in the community.¹¹. A good understanding of first aid in emergencies is essential for lay people. This research aims to review the literature to assess basic first-aid knowledge in emergency cases.

Material and Methods

This research used a Literature Review method to collect and analyze data from previous researchers.¹² This literature review used a search strategy for this study in English and Indonesian, utilizing databases such as ProQuest, Google Scholar, and P.N.R.I. The keywords used were 'first aid,' 'knowledge,' 'adolescent,' and 'accident.' Out of all the journals, 12 were selected based on the criteria of knowledge about first aid skills in emergency cases among laypeople.

The next stage involves grouping articles on basic first aid understanding in emergencies. These articles are tabulated with explanations provided in the selected articles. The data collection technique involves gathering materials such as articles related to the research and summarising them about the subject under study. Subsequently, the researcher will review these articles in depth, mainly focusing on the results discussed in the discussion section. The steps in data analysis include using the PRISM.A. diagram.

Results

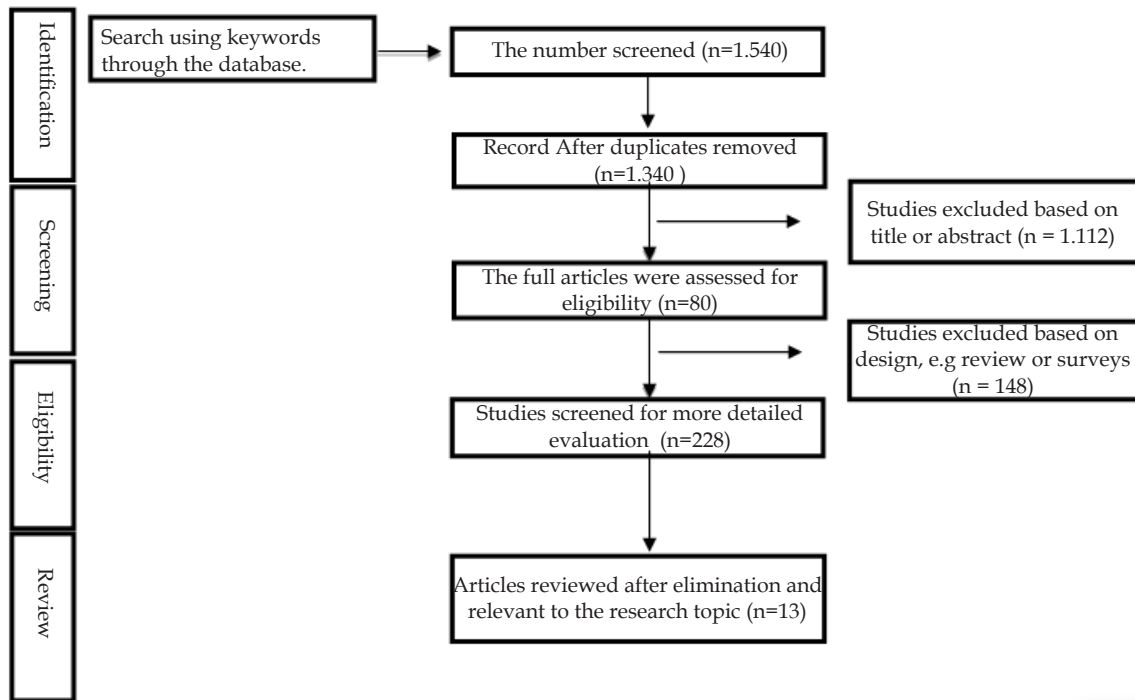
Table 1: Literature Review

Author	Journal Title	Year of Publication	Research Method
Pratiksha Wasanka <i>et al.</i>	Assessment of Knowledge, Awareness, and Practices of First Aid Skills among the Society	2020	Quantitative Method

Continue.....

Ni Kadek Pon Widiastuti <i>et al.</i>	Overview of Students' Knowledge Level on First Aid for Accidents in High School	2022	Quantitative Method
Putri Wulandini <i>et al.</i>	Students' Knowledge of First Aid for Sports Injuries at Rumbai Sports High School, Pekanbaru, Riau Province, 2019	2019	Quantitative Method
Belayneh Shetie Workneh <i>et al.</i>	Determinants of Knowledge, attitude, and practice towards First Aid among kindergarten and Elementary School Teachers in Gondar City, Northwest Ethiopia	2021	Quantitative Method
Joseph N, Kumar GS <i>et al.</i>	Knowledge of First Aid Skills Among Students of a Medical College in Mangalore City, South India	2014	Quantitative Method
Kadeja A. Bashekah <i>et al.</i>	The Knowledge, Attitudes, and Associated Factors Regarding First Aid Among the General Public in Saudi Arabia	2023	Quantitative Method
Raneem Moutlaq Alsayali <i>et al.</i>	Awareness, knowledge, attitude and practices of first aid skills among medical and non-medical students at Taif University	2019	Quantitative Method
A' Aisyah Nur Farihah Binti Paharudin <i>et al.</i>	First aid knowledge, attitude and awareness among nursing students: Relevance to nursing education	2022	Quantitative Method
Ibrahim Adel AlYahya <i>et al.</i>	Assessment of knowledge, attitude, and practice about first aid among male school teachers and administrators in Riyadh, Saudi Arabia	2019	Quantitative Method
Muhammad Shalihuddin Mas'ud and Rini Ernawati	Overview of the Knowledge Level of 10th and 11th Grade Students on First Aid for Accidents at Samarinda Islamic High School	2019	Quantitative Method
Asy'ari and Jefri Amin	Identification of High School Students' Knowledge and Attitudes Regarding First Aid for Accidents at Muhammadiyah 7 High School Surabaya	2020	Quantitative Method
Herlinawati and Taufan Azhari	The Relationship Between Knowledge and Attitude with First Aid (P3K) Behavior Among Yarn Section Building Employees	2023	Quantitative Method

Figure 1. Figure Prisma



Discussion

This research aims to conduct a literature review to understand basic first-aid knowledge in the context of accidents. Accidents often happen to individuals or groups of people. Such events can occur anywhere, anytime, and affect anyone, including at schools. In Indonesia, common school accidents include injuries, lacerations, broken bones, and bruises. First aid is performed to prevent more severe injuries, serving as initial care before the victim receives treatment from a hospital.¹³ Knowledge is a crucial component in forming first aid actions/skills. The better someone's knowledge of first aid, the more effectively they can perform it in the field. One way to improve first aid knowledge is through health education or joining health-based organisations like the Red Cross.¹⁴

According to an analysis by Wasankar et al., overall, only 40% of individuals had complete knowledge of first aid for emergencies such as burns, 20% had complete knowledge for emergencies like heart attacks, 25% had a full understanding of animal bites, 35% had complete knowledge for shock, and 60% did not know about Cardiopulmonary Resuscitation (C.P.R.). The study concluded that the level of participants' knowledge about first aid was not good.¹⁵

In contrast, research by Widiastuti and Adiputra found that most respondents had good knowledge. Specifically, 151 respondents (78.2%) had good knowledge, 42 respondents (21.8%) had adequate knowledge, and no students had poor knowledge. This was influenced by the sources of information and previous experiences related to first aid.¹⁶ Similarly, research by Wulandini et al. at S.M.A. Olahraga Rumbai Pekanbaru in Riau Province showed that most students had good knowledge about first aid in sports and accidents, with 69 students (86.25%) being well-informed, primarily due to information from health professionals.¹⁷ Another study concluded that students' knowledge and attitudes towards first aid at S.M.A. Muhammadiyah 7 Surabaya were good. Future research should identify the application of first aid in accidents among high school students.¹⁸ Experience is a way to acquire knowledge by revisiting previously learned knowledge to solve problems encountered in the past. Information media also significantly impacts the level of expertise. Access to information can help speed up the acquisition of new knowledge. Various mass media are available with advancing technology, which can influence public knowledge about new innovations.

Research by Workneh et al. showed that only 41.1% of respondents had good knowledge of first aid, while nearly two-thirds (64.8%) of teachers had a positive attitude towards first aid. The majority (85.8%) of teachers who faced students needing first aid at their school provided it¹⁹

Research by Kumar et al. indicated that only 11.2% (17/152) of participants had previously received first-aid training. Good knowledge of first aid was found in 13.8% (21/152) of participants, moderate knowledge in 68.4% (104/152), and poor knowledge in 17.8% (27/152). Analysis revealed that 21% (32/152) had inadequate knowledge of first aid management for shock and gastroesophageal reflux and 20.4% (31/152) for epistaxis and foreign objects in the eye. All students felt that first-aid skills should be taught from the school level onward and were willing to participate in formal first-aid training sessions. The study concluded that the overall level of first-aid knowledge among students was poor compared to awareness levels in other studies. It also highlighted the need for first aid training as a perceived need among medical students, with regular refresher training needed, as knowledge levels did not significantly differ between those who had received previous training and those who had not.¹⁰

Research by Bashekah et al. included 1135 participants. Nearly a third (36.0%) reported receiving first aid training, and most (94.5%) had heard of first aid before. The most common sources of information about first aid were media (37.6%). Choking (63.2%), breathing difficulties (61.7%), and fainting (56.7%) were the most frequently reported first aid scenarios. The average knowledge score among participants was 4.4 (SD: 2.8) out of 8 (55.0%), indicating moderate knowledge of first aid. The study emphasised the need to educate the public about first aid and emergency treatments, noting that while a third of participants had received first aid training, continuous training was necessary. Information from social media about first aid was often unreliable. Choking, breathing difficulties, and syncope are common first aid conditions, and awareness to handle choking is required. Gender, socioeconomic status, and education influence first aid knowledge and attitudes. Women, medical

students, and healthcare workers know more about first aid. Most participants supported providing first aid. The study strongly recommended increasing awareness, offering affordable first-aid training, and targeting specific populations to improve first-aid knowledge and attitudes.²⁰

Research by Alsayali et al. aimed to assess the knowledge and attitudes towards first aid skills among medical and non-medical students at Taif University. The study concluded that half of the participants had good knowledge of first aid and Basic Life Support, but their practical skills were very poor.²¹ This finding aligns with research by Ahmad et al., which concluded that most respondents had moderate knowledge of first aid.²² These findings may be due to respondents being students from health-related fields. To enhance students' knowledge entering the healthcare field, their learning should be reinforced annually. Existing first aid knowledge should be improved so that students and adolescents can competently administer first aid independently. Similarly, research by Mas'ud and Ernawati found that among 65 respondents from S.M.A. Islam Samarida, the average knowledge about first aid for accidents was "adequate."²³

Research by AlYahya et al. concluded that most respondents demonstrated weak knowledge of first aid and inappropriate responses to common emergency scenarios. However, respondents who received first aid training were more likely to respond better to given scenarios, though most had not received any training. The study recommended that respondents undergo first-aid training programs.²⁴ This is consistent with research by Herlinawati and Azhari, which showed that respondents with high knowledge of first aid numbered 37 (55.2%), compared to 30 respondents (44.8%) with low knowledge.²⁵

Conclusion

Based on the results of the literature study conducted, it can be concluded that a systematic literature review is a process of collecting and evaluating research related to a specific topic of focus. Out of 1,540 articles, a selection was made, resulting in 13 journals that met the research criteria. The findings encouraged the researchers to choose this

title. According to the literature review conducted from 2014-2024, the dominant method used by other researchers is the service method. Additionally, based on the literature study, researchers can conclude that the basic understanding of first aid in **emergencies** is generally still **categorised** as poor or weak and moderate or sufficient. Limited knowledge and experience make it difficult for individuals to handle emergencies effectively. However, quick and precise action in first aid (P3K) can prevent worse conditions and even save lives. Knowledge and understanding of various ways to handle basic emergencies are essential. Yet, very few people still have this knowledge, experience, and skill. Therefore, many parties, including the government, independent organisations, activists, and even private companies, are working to address this issue. One approach is to **utilise** the rapidly developing technology of mobile learning.

Conflict of Interest: The authors declare no conflict of interest

Source of Funding: This research was not funded

References

1. WHO. Everyone can help_ A First Aid Pocket Book for road crash bystanders. 2020.
2. WHO. Road Traffic Injuries. International Encyclopedia of Public Health. 2023. p. 393-400.
3. Waluyo D. Angka Kematian Kecelakaan Transportasi Turun Sepanjang 2023. Indonesia.go.id. 2024.
4. WHO. World report on road traffic injury prevention. Vol. 61, Medical Journal Armed Forces India. 2005. p. 91.
5. HealthNord. Empowering Individuals_ The Importance of First Aid Knowledge - HealthNord. 2024.
6. Tse E, Plakitsi K, Voulgaris S, Alexiou GA. The Role of a First Aid Training Program for Young Children: A Systematic Review. Child (Basel, Switzerland). 2023 Feb;10(3).
7. Vermonden M, Dehaerne L, Toelen J, De Coninck D. Teacher Preparedness for Medical Emergencies in Belgian Classrooms: Studying Objective and Subjective First-Aid Knowledge. Child (Basel, Switzerland). 2023 Mar;10(4).
8. Taklual W, Mekie M, Yenew C. Determinants of first aid knowledge and essential practice among elementary school teachers in Debre Tabor City, Northwest Ethiopia. medRxiv [Internet]. 2019;19005439. Available from: <https://api.semanticscholar.org/CorpusID:203046799>
9. Abernethy L, MacAuley D, McNally O, McCann S. Immediate care of school sports injury. Inj Prev J Int Soc Child Adolesc Inj Prev. 2003 Sep;9(3):270-3.
10. Joseph, Kumar, Babu, Nelliyanil, Bhaskaran. Knowledge of First Aid Skills Among Students of a Medical College in Mangalore City of South India. Ann Med Health Sci Res. 2014;4(2):162-6.
11. Sun F. Cornerstone : A Collection of Scholarly and Creative Works for Minnesota State University, Mankato Access to E.M.S. Services and Training, Knowledge, and Perceptions Related to First Aid and Cardiopulmonary Resuscitation (C.P.R.) Skills Among College Students. 2013;
12. Kitchenham B, Pretorius R, Budgen D, Brereton OP, Turner M, Niazi M, et al. Systematic literature reviews in software engineering tertiary study. Inf Softw Technol [Internet]. 2010;52(8):792-805. Available from: <http://dx.doi.org/10.1016/j.infsof.2010.03.006>
13. Usiono, Aulia Hutasuhut A, Apriani S, Qomariah Dalimunthe S, Ayuni S. Palang Merah Indonesia Menjadi Salah Satu Organisasi Sosial di Masyarakat. J Ilm Wahana Pendidik [Internet]. 2023;9(2):60-5. Available from: <https://doi.org/10.5281/zenodo.7563625>
14. T.U CW, Nanda D, M. P SD, Ferdiansyah D, Sholeha R. Tri Bakti PMR Dasar- Dasar Pertolongan Pertama Di SDN Sukabumi I Probolinggo. J Pendidikan, Sains Dan Teknol. 2022;1(1):67-73.
15. Wasankar P, Dusane S, Rupesh P, Mahajan B, Madhavi P. Assessment of Knowledge, Awareness, and Practices of First Aid Skills among the Society. 2020;(1). Available from: www.ijppr.humanjournals.com
16. Widiastuti NKP, Adiputra IMS. Gambaran Tingkat Pengetahuan Siswa tentang Pertolongan Pertama pada Kecelakaan di Sekolah Menengah Atas. J Akad Baiturrahim Jambi. 2022;11(1):23.
17. Fitri A, Wulandini P, Sari TK. Pengetahuan Siswa/I Tentang Pertolongan Pertama Pada Kecelakaan Saat Berolahraga Di Sma Olahraga Rumbai Pekanbaru Provinsi Riau 2019. J Keperawatan Abdurrah. 2019;3(1):70-7.
18. Asy'ari JA, Hadi S, Wijaya SA. Asy'ari, Jefri Amin Identifikasi Tingkat Pengetahuan Dan Sikap Siswa SMA Tentang Pertolongan Pertama Kecelakaan Di SMA Muhammadiyah 7 Surabaya. Universitas Muhammadiyah; 2020.

19. Workneh BS, Mekonen EG, Ali MS. Determinantes del conocimiento, la actitud y la práctica hacia los primeros auxilios entre los maestros de jardín de infantes y escuelas primarias en la ciudad de Gondar, noroeste de Etiopía. *BMC Emerg Med* [Internet]. 2021;21(1):1-11. Available from: <https://pubmed.ncbi.nlm.nih.gov/34154534/>
20. Bashekah KA, Alqahtani R, Aljifri AM, Ashram SY, Alghamdi E. The Knowledge, Attitudes, and Associated Factors Regarding First Aid Among the General Public in Saudi Arabia. 2023;15(7).
21. Alsayali R, Moutlaq, Althubaiti A.Q.A., Altowairqi RM, Alsulimani FA, Alnefaie BM. Awareness, knowledge, attitude and practices of first aid skills among medical and non-medical students at Taif University. 2019;17(11).
22. Ahmad A, Sciences H, Kunjukunju A, Yusof P, Sciences H, Arabi R, et al. First aid knowledge, attitude and awareness among nursing students : Relevance to nursing education First aid knowledge, attitude and awareness among nursing students : Relevance to nursing education. 2022;(March):23-30.
23. Muhammad Shalihuddin Mas'ud Rini Ernawati. Gambaran Tingkat Pengetahuan Siswa Kelas 10 Dan 11 Tentang Pertolongan Pertama Pada Kecelakaan Di Sekolah Menengah Atas Islam Samarinda. 2019.
24. Alyahya IA, Almohsen HA, Alsaleem IA, Al-hamid MM, Arafah AM, Abdullah Y, et al. Assessment of knowledge, attitude, and practice about first aid among male school teachers and administrators in Riyadh, Saudi Arabia. 2019;684-8.
25. Herlinawati, Azhari T. Hubungan Pengetahuan Dan Sikap Dengan Perilaku Pertolongan Pertama Pada Kecelakaan (P3K) Pada Karyawan Gedung E Bagian Benang. 2019;1040-7.

Effectiveness of Assertiveness Training on Self-esteem and Assertiveness among Nursing Students

Anuradha Kumari¹, Nanda Kumar Paniyadi², Priyanka Singh³,
Roshna Lytton⁴, Dishani Harh⁵

¹Registered Nurse(MSc Nursing), AIIMS, Bhubaneswar, ²Assistant Professor, College of Nursing AIIMS, Bhubaneswar, ³Registered Nurse(MSc Nursing), AIIMS, Bhubaneswar, ⁴Registered Nurse (MSc Nursing), AIIMS Bhubaneswar, ⁵Registered Nurse (MSc Nursing), College of Nursing, AIIMS, Bhubaneswar.

How to cite this article: Anuradha Kumari, Nanda Kumar Paniyadi, Priyanka Singh et. al. Effectiveness of Assertiveness Training on Self-esteem and Assertiveness among Nursing Students. International Journal of Nursing Education / Vol. 17 No. 1, January-March 2025.

Abstract

Background: Assertiveness is a communication style based on taking a stand for your rights, expressing your thoughts, beliefs & feelings honestly and directly. It facilitates understanding and promotes a balanced relationship, reducing communication-based malpractices in nursing. Evaluating the effectiveness of assertiveness training among B.Sc. (Hons.) Nursing students on assertiveness and self-esteem was aim of this study.

Method: An assertiveness training program was prepared and implemented on 45 nursing students via a one-day, 3-hours interactive face-to-face workshop after the pre-test. Once in a week, follow-up was done for 4 weeks. Post-tests were done on 7th and 30th day after the intervention. Data collection tools were Begley and Glacken's Assertiveness Scale and Rosenberg's Self-Esteem Scale.

Result: The participants' mean assertiveness score increased from pre-test 68.69 ± 6.57 to post-test₁ 73.67 ± 5.71 to post-test₂ 75.00 ± 5.52 . Self-esteem scores increased from pre-test 15.22 ± 3.84 to post-test₁ 16.98 ± 2.64 to post-test₂ 19.31 ± 3.27 . Significant increase in the scores was seen in ANOVA and post hoc analysis ($p < 0.05$).

Conclusion: Assertiveness training can be an effective measure of improving self-esteem and teaching assertive communication skills to nursing students. This will help in producing assertive nurses in the future.

Keywords: Assertiveness training; nursing students; self-esteem; assertiveness; nursing.

Background

Being a communicator is a very crucial role of a nurse, and communication skills are important to play this role.⁽¹⁾ There are basically four different patterns of communication, namely passive, aggressive,

passive-aggressive, and assertive.⁽²⁾ Becoming assertive means speaking up for what's right for you and being open and truthful about your feelings and opinions.⁽³⁾ Nurses are traditionally used to behave in a subservient manner, and this unassertive behavior is

Corresponding Author: Anuradha Kumari, Registered Nurse(MSc Nursing) AIIMS, Bhubaneswar, India.

E-mail: anuradha0501@outlook.com

Submission date: September 3, 2024

Revision date: October 4, 2024

Published date:

This is an Open Access journal, and articles are distributed under a Creative Commons license- CC BY-NC 4.0 DEED. This license permits the use, distribution, and reproduction of the work in any medium, provided that proper citation is given to the original work and its source. It allows for attribution, non-commercial use, and the creation of derivative work.

universally expected and promoted, but it leads to low self-esteem and stress.⁽⁴⁾ Assertive behavior increase their self-esteem, making one feel good about self and helps to deal with any situation. Thus, assertive behavior producing a direct or indirect positive effect on their academics and nursing care.⁽⁵⁾ Assertiveness also indicates one's self-esteem⁽¹⁾. Many studies have discovered that assertiveness, sense of self-worth and mental well being are positively correlated.^(1,3) One can reduce disagreements, avoid misunderstandings, and strengthen their relationships by communicating assertively with one another. Assertive behavior promotes a favorable atmosphere for productive discussions and problem-solving. This will strengthen teamwork in healthcare, leading to coordinated, holistic patient care. Assertiveness also equips a nurse to advocate for her patients' rights assertively, and it promotes patients' safety and health. An assertive nurse will communicate the need for the patient's and his family's involvement in planning care for the patient, promoting autonomy and patient-centered care.

This assertive communication skill can help in reducing stress and burn-out among healthcare professionals, which in turn will help in reducing errors and better performance by them leading to soulful and ethical patient care. Psychoeducation, imparting assertiveness skills, and engaging in assertive behavior practice are the three primary components of assertiveness training.⁽⁵⁾ This training aims to modify both the verbal and non-verbal aspects of the behavior, which emphasizes respecting the needs and wants of both parties in a conversation.⁽³⁾ Nursing students must develop assertive techniques for communication in order to grow into assertive nurses and manage with the probable stress that they may face during their training. The number of assertive nursing students found to be decreased over a period of 4 years of nursing education in a longitudinal study.⁽⁶⁾ This shows that there has been negative impact on assertiveness level of nursing students. Nursing students are actively involved in providing nursing care to patients. If a nurse lacks assertiveness, nursing practice cannot be deemed good. In order to protect their own rights and the rights of their clients who are receiving nursing care, they must be assertive. This, in turn, promotes a standard of nursing care.⁽⁷⁾ Studies conducted among nurses

(Egypt and India) and nursing students (Turkey and Australia) showed improvement in assertiveness and self-esteem following an assertiveness training program.^(8,9,10) A systematic review showed that assertiveness training programs, which include face-to-face instruction with several methods, leadership support, collaborative skills training, and communication strategies, have maximum impact.⁽¹¹⁾ Another systematic review concluded that role-play and practice sessions were effective in teaching assertiveness techniques and improving participants' confidence, which the investigator incorporated during the training session.⁽¹²⁾ Thus, our intervention included face to face workshop, roleplays and practice session for better outcome. There are only a few such studies done in Indian settings, especially on nursing students. Also, different assertiveness training methods across the world have varied in their success. So investigator intend to check the efficacy of assertiveness training among BSc Nursing students at Indian set up.

Objective

- To check the effectiveness of assertiveness training on self-esteem and assertiveness among B.Sc. (Hons.) Nursing students.
- To identify the correlation between assertiveness and self-esteem.
- To find the association of levels of assertiveness and self-esteem with their demographic variables.

Method

This study used an experimental design to evaluate the effectiveness of assertiveness training (single group pre-test post-test). The study was conducted at a nursing college, tertiary care hospital, Eastern India in Nov to Dec 2023. Final year B.Sc. (Hons.) Nursing students participated in the study. The sample size for the study was calculated by consultation with a statistician from College of Nursing.

$$n = \frac{(z\alpha/2 + z\beta)^2 \times (\sigma)^2}{(\mu_1 - \mu_2)^2}$$

If $\alpha = 0.05$ and $\beta = 0.2$ (80% power)

$$n = 8 \times (\sigma)^2 = 32$$

$$(\mu_1 - \mu_2)^2$$

Previous studies show that the two groups' standard deviation is 1.6 ($\sigma = 1.6$).

We consider effect size $\mu_1 - \mu_2$ of 0.8

After adding an attrition rate of 10%, the total sample size = 36

Prior to the main study; the training program was formulated and administered to a group of B.Sc. Nurses and feedback was taken & incorporated. The training program was validated by five experts Professor from department of psychiatry, two Clinical psychologists from department of psychiatry, assistant professors and Principal of College of Nursing. Training programme included discussion, power point presentation, group activities, behavior demonstrations and practice session as one day 3-hour workshop. Finalized training programme was administered to 45 Fourth year B.Sc. Nursing students after pre-test. Students were given assertiveness worksheets for practice. A WhatsApp group was formed with all participants and investigators to share weekly content and feedback for reinforcement. The first post-test was administered after 7th day, and the second was administered after 30th day of the workshop. Tools used for data collection were Demographic proforma, Begley and Glacken's Assertiveness Scale ($r=0.827$), and Rosenberg's Self-esteem Scale ($r=0.92$).

The collected data was entered into Microsoft Excel, coded, and exported to SPSS ver. 20.0. Descriptive statistics, ANOVA, and post-hoc analysis was performed.

Ethical consideration

This study was conducted with the participants' free and voluntary cooperation. Informed consent was taken from the participants. Permission was obtained from the college authority and the Institutional Ethics Committee.

Results

Demographic data revealed that all the participants were female, 82.2% from nuclear families, 66.70% from state board, 68.90% from co-ed schools, 77.80% from Hindu religion and 51.10% were urban residents. Socio-economically, 44.40% were from the upper, 42.20% from the middle, and 13.30% from the upper and lower classes. Only 13.30% reported (Table-1) having a history of psychiatric illness. The average age of the participants was 22.47±0.99 years (20-25).

Table 1: Sociodemographic variables of the nursing students.

S. no.	Demographic variables		F (%) or Mean±s.d
1	Age		22.47±0.99 years
2	Gender	Male Female	0(0.00) 45(100)
3	Type of family	Nuclear family Joint family Extended family	37 (82.20) 8(17.80) 0(0.00)
4	Socio-economic status	Upper Upper middle Lower middle Upper lower Lower	20(44.40) 14(31.10) 5(11.10) 6(13.30) 0(0.00)
5	School type	Girls only Co-ed	14(31.10) 31(68.90)
6	School Board	State Board CBSE Board ICSE board Other	30(66.70) 14(31.10) 1(2.20) 0(0.00)
7	Residence	Rural Semi-urban Urban	14(31.10) 8(17.80) 23(51.10)
8	Religion	Hindu Muslim Christian Others	35(77.80) 7(15.60) 3(6.70) 0(0.00)
9	Language	Bangla Hindi Odia Malayalam Mao Bodo	21(46.70) 12(26.70) 5(11.10) 4(8.90) 2(4.40) 1(2.20)
10	History of psychiatry illness	No Yes	39(86.70) 6(13.30)

The majority, 95.4% of the participants had assertiveness scores (Figure 1) in the moderate range; 42.2% had low self-esteem (Figure 2).

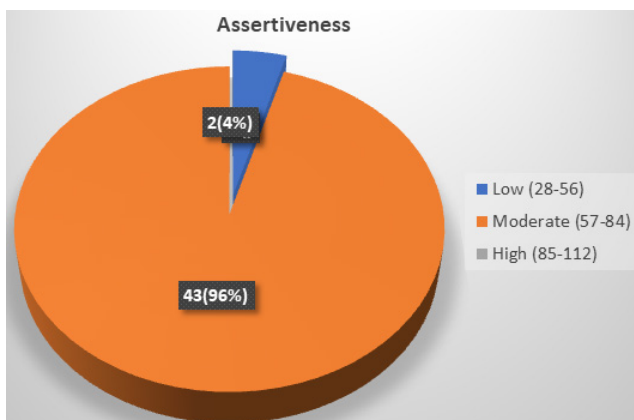


Figure 1: Level of assertiveness of the participants.

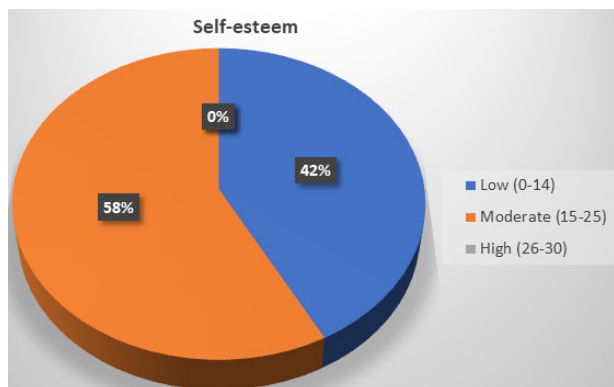


Figure 2: Level of self-esteem of the participants

The group’s mean assertiveness and self-esteem scores were increased from pre-test to post-test-1 and post-test-2.

Table 2: Comparison of pre-test, post-test-1 and post-test-2 assertiveness and self-esteem scores. (N=45)

S.no.	Variables	Scores	Mean±SD
1	Assertiveness	Pre-test	68.69±6.57
		Post-test 1	73.67±5.71
		Post-test 2	75.00±5.52
2	Self-esteem	Pre-test	15.22±3.84
		Post-test 1	16.98±2.64
		Post-test 2	19.31±3.27

Table no-4 show that, The mean difference in the pre-test, post-test-1, and post-test-2 [4.98, 6.31, 1.33] assertiveness and self-esteem scores was [1.76, 4.09, 2.33] significant statistically. ($p < 0.05$)

Table 3: Repeated measure ANOVA of assertiveness and self-esteem scores (N=45)

Within groups	Assertiveness					Self-esteem				
	Sum of squares	df	Mean square	f	p	Sum of squares	df	Mean square	f	p
	995.79	1	739.27	54.66	0.001*	378.68	1	257.14	55.67	<0.001*

level of significance, $P < 0.05^*$

Table 4: Post-hoc analysis of repeated measures ANOVA for assertiveness and self-esteem scores (N=45)

Scores compared	Assertiveness					Self-esteem				
	Mean difference (between scores)	Std. error	p value	95 % CI		Mean difference (between scores)	Std. error	P value	95 % CI	
				Lower bound	Upper bound				Lower bound	Upper bound
Pre-test and post-test 1	-4.98	0.73	<0.001*	-6.80	-3.16	-1.76	0.38	<0.001*	-2.71	-0.81
Pre-test and post-test 2	-6.31	0.75	<0.001*	-8.17	-4.46	-4.09	0.48	<0.001*	-5.29	-2.89
Post-test 1 and post-test 2	-1.33	0.35	0.001*	-2.20	-0.46	-2.33	0.28	<0.001*	-3.02	-1.65

The mean difference is significant at $P < 0.05^*$ level.

Thus, the assertiveness training program was found to be statistically effective in improving the assertiveness and self-esteem of nursing students.

Moderately positive correlation was found between assertiveness and self-esteem scores. (Table 5)

Table 5: Correlation between assertiveness and self-esteem. (N=45)

Variables		r	p	N
Assertiveness	Self-esteem			
Pre-test scores	Pre-test scores	0.526	0.000	45

r- Pearson correlation value, correlation is significant at $p < 0.05$

Also, age was found to be statistically associated with the level of self-esteem (Chi square= 6.71, $p=0.01$) at a 0.05 level of significance.

Discussion

Similar to the findings of a study conducted in Turkey (2016), assertiveness among most nursing students was found to be moderate in the present study.⁽⁶⁾ Meanwhile, a Chennai (2020) study showed that on assertiveness scale nursing pupils lied mainly in moderate range.⁽¹³⁾ This discrepancy in the findings may have occurred due to the difference in study methodology as well as, they included all nursing undergraduates whereas ours was focused on 4th year.

In this study, the average self-esteem was found to be moderate, which is in contrast with the results of the Turkish investigation (2016), where the group's average self-esteem was found to be high. Our study findings revealed that the participants had either moderate or low self-esteem.⁽⁶⁾ In intercultural research carried out in the UK and Thailand (2002), most nursing pupils' self-esteem lied in the average range, similar to our study finding.⁽¹⁴⁾ This points out the need of assertiveness training program among nursing students of varied cultures and countries.

After our intervention, there was an improvement in the assertiveness and self-esteem of the nursing pupils. Similarly, an inquiry conducted in Taiwan (2004) showed substantial increase in assertiveness and self-esteem after 1 month of training sessions.

This reveals that despite their population being nursing and medical students, these trainings have proven to be effective (2 hours weekly).⁽¹⁵⁾

Another study conducted in Australia (2014) among midwifery students adopted a similar methodology and produced similar results showing increased assertiveness. This shows that one-day training programs are effective in improving assertiveness among students.⁽¹⁰⁾

A hybrid assertiveness training program with 14 sessions (35% conducted in person and 65% online) in Turkey (2021) led to a statistically significant increase in assertiveness and self-esteem.⁽¹⁾ Therefore, any such modes of training may be adopted depending on the availability and feasibility.

Another experimental study in South Korea (2021) comparing assertiveness training, SBAR (Situation, Background, Assessment, and Recommendation) and a combination of both revealed that combined intervention improved communication clarity and clinical competence and reduced clinical stress. Therefore, similar combined interventions may be taken into consideration while outlining a training program.⁽¹⁶⁾

Assertiveness and self-esteem had moderately positive correlation, which is concordance with the findings of a Turkish (2008) as well as a Nepali (2019) study where the relationship between both variables was found to be positively correlated.^(17,18)

Only age was significantly associated with self-esteem in the present study. An inquiry conducted in Nepal (2019) also found both assertiveness and self-esteem to be significantly associated with only a single demographic variable, i.e., residence among nursing students⁽¹⁸⁾. Hence more studies may be conducted to find out the associated variables.

Conclusion

The study concludes that assertiveness and self-esteem of nursing undergraduates were moderate or low, which can be effectively improved by assertiveness training programs as both are positively correlated. Similar studies aimed at improving assertiveness can be done by adopting different methodologies, as this study has provided insight

into the possible advantages of such interventions for nursing students. Since, assertiveness training is not a part of nursing curriculum and can be costly for the students, hence such modules on assertiveness training may be introduced in the curriculum of undergraduate nursing courses. Implementing such programs will help produce more assertive new generation of nurses, who will contribute into maintaining a good workplace environment for self and others. This will also improve the interdisciplinary communication thus leading to better patient care. Improved assertiveness and self-esteem will enable them to take a stand for themselves, their profession, and their patients. It will lead to the growth of assertive nursing leaders in the future who can play a vital role in uplifting the nursing profession.

- **Funding Sources:** None
- **Ethical Clearance/Statement of Ethics:** This study was approved by Institutional Ethics Committee of All India Institute of Medical sciences (Reg No- ECR/534/Inst/OD/2014/RR-20), Bhubaneswar on its' August, 2023 (RefNo-IEC/AIIMS BBSR/Nursing/2023-24/ 05).
- **Declaration of conflicts of interest statement:** The authors have no conflicts of interest directly relevant to the content of this article

References

1. Ayhan D, Seki Öz H. Effect of assertiveness training on the nursing students' assertiveness and self-esteem levels: Application of hybrid education in COVID-19 pandemic. *Nursing Forum* [Internet]. 2021 May 24;56(4). Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8242798/>
2. Townsend MC, Morgan KI. *Essentials of psychiatric mental health nursing*. 8th ed. Philadelphia: F.A. Davis Company; 2020.
3. TheKnowledgeAcademy. *Assertive Behaviour: A Detailed Explanation* [Internet]. www.theknowledgeacademy.com. Available from: <https://www.theknowledgeacademy.com/blog/assertive-behaviour/>
4. Psychology Today. *Assertiveness | Psychology Today* [Internet]. Psychology Today. 2019. Available from: <https://www.psychologytoday.com/us/basics/assertiveness>
5. Hepper EG. *Self-Esteem*. *Encyclopedia of Mental Health*. 2016;4:80-91.
6. İlhan N, Sukut Ö, Akhan LU, Batmaz M. The effect of nurse education on the self-esteem and assertiveness of nursing students: A four-year longitudinal study. *Nurse Education Today*. 2016 Apr;39:72-8.
7. Nakamura Y, Yoshinaga N, Tanoue H, Kato S, Nakamura S, Aoishi K, et al. Development and evaluation of a modified brief assertiveness training for nurses in the workplace: a single-group feasibility study. *BMC Nursing* [Internet]. 2017 Jun 6;16(1). Available from: <https://bmcnurs.biomedcentral.com/articles/10.1186/s12912-017-0224-4>
8. Abed GA, Amrosy SE, Atia MM. *The Effect of Assertiveness Training Program on Improving Self-Esteem of Psychiatric Nurses* [Internet]. 2015. Available from: https://www.researchgate.net/publication/357404128_Atia_The_Effect_of_Assertiveness_Training_Program_on_Improving_Self-Esteem_of_Psychiatric_Nurses
9. Maheswari SK. *A study to develop and evaluate the effectiveness of assertiveness training module on assertive behaviour, self esteem, interpersonal communication satisfaction and stress among nurses working in selected hospitals of Punjab* [Internet]. Available from: https://indiannursingcouncil.org/uploads/pdf_backup/Sushil%20Kumar%20Maheshwari.pdf
10. Warland J, McKellar L, Diaz M. *Assertiveness training for undergraduate midwifery students*. *Nurse Education in Practice* [Internet]. 2014 Nov 1;14(6):752-6. Available from: <https://www.sciencedirect.com/science/article/abs/pii/S1471595314001280>
11. Omura M, Maguire J, Levett-Jones T, Stone TE. *The Effectiveness of Assertiveness Communication Training Programs for Healthcare Professionals and students: a Systematic Review*. *International Journal of Nursing Studies* [Internet]. 2017 Nov;76(1):120-8. Available from: <https://pubmed.ncbi.nlm.nih.gov/28964979/>
12. Lee SE, Kim E, Lee JY, Morse BL. *Assertiveness educational interventions for nursing students and nurses: A systematic review*. *Nurse Education Today*. 2022 Nov;120:105655.
13. Sumathi C, Devi JVV, Sivakumar VP. *Assess the Level of Assertiveness among BSc Nursing Final Year*

-
- Students in a Selected Nursing College, Chennai, Tamil Nadu, India. *Pondicherry Journal of Nursing*. 2020;13(2):33-6.
14. Sasat S, Burnard P, Edwards D, Naiyapatana W, Hebden U, Boonrod W, et al. Self-esteem and student nurses: A cross-cultural study of nursing students in Thailand and the UK. *Nursing and Health Sciences*. 2002 Mar;4(1-2):9-14.
 15. Lin YR, Shiah I-Shin, Chang YC, Lai TJ, Wang KY, Chou KR. Evaluation of an assertiveness training program on nursing and medical students' assertiveness, self-esteem, and interpersonal communication satisfaction. *Nurse Education Today*. 2004 Nov;24(8):656-65.
 16. NohGO, Kim M. Effectiveness of assertiveness training, SBAR, and combined SBAR and assertiveness training for nursing students undergoing clinical training: A quasi-experimental study. *Nurse Education Today*. 2021 May;103(103):104958.
 17. Karagözoğlu Ş, Kahve E, Koç Ö, Adamişoğlu D. Self esteem and assertiveness of final year Turkish university students. *Nurse Education Today*. 2008 Jul;28(5):641-9.
 18. Shrestha S. Assertiveness and Self-Esteem among Nursing Students of Manipal College of Medical Science of Pokhara, Nepal. *Journal of Chitwan Medical College*. 2019 Jun 21;9(2):54-9.

The Relationship between Individual Characteristics and Work Environment with Nurses' Work Performance in Hospitals: A Cross-Sectional Study

Desi Yulastri^{1,2}, Hajjul Kamil³, Fithria Fithria⁴

¹Master of Nursing Program, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia, ²Yappkes Aceh Singkil Nursing Academy, Aceh Singkil, Indonesia, ³Department of Basic Nursing and Nursing Management, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia, ⁴Department of Family Health Nursing, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia.

How to cite this article: Desi Yulastri, Hajjul Kamil, Fithria Fithria. The Relationship between Individual Characteristics and Work Environment with Nurses' Work Performance in Hospitals: A Cross-Sectional Study. *International Journal of Nursing Education* / Vol. 17 No. 1, January-March 2025.

Abstract

Introduction: This study aims to determine the relationship between individual characteristics and work environment with nurses' performance in hospitals. Specifically, the study examined how demographic characteristics, leadership style, professional development and other work environment elements influence nurses' performance outcomes.

Methods: A quantitative research design with a cross-sectional approach was used. The research was conducted in the inpatient department of the Aceh Singkil Regional General Hospital on August 12 to 24, 2024. The study population was 134 nurses, with 109 respondents selected by accidental sampling. Inclusion criteria included at least one year of work experience and actively working at the time of data collection. Data were collected using questionnaires measuring individual characteristics, work environment (based on American Nurses Credentialing Center), and nurses' work performance. Data were analyzed using chi-square and multiple logistic regression.

Results: The results showed that there was a significant relationship between age, gender, marital status, education, tenure, quality, leadership style, staffing programs and policies, autonomy, and professional development with nurses' work performance ($p = 0.029$), ($p = 0.000$), ($p = 0.015$), ($p = 0.000$), ($p = 0.030$), ($p = 0.001$), ($p = 0.000$), ($p = 0.001$), ($p = 0.042$). However, interdisciplinary relationships did not show a significant relationship with job performance ($p = 0.097$). Professional development has the strongest influence on nurses' work performance, with an Odds Ratio (OR) of 8.72 (95% CI 0.670-3.662), which indicates that nurses who have good professional development have 8.72 times the probability of achieving excellent work performance.

Conclusion: The results of this study indicate that professional development is the factor most associated with nurses' job performance.

Key words: Individual Characteristics, Work Environment, Nurse Work Performance

Corresponding Author: Fithria Fithria, Department of Family Health Nursing, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia.

E-mail: fithria@usk.ac.id

Submission date: December 19, 2024

Revision date: January 20, 2024

Published date:

This is an Open Access journal, and articles are distributed under a Creative Commons license- CC BY-NC 4.0 DEED. This license permits the use, distribution, and reproduction of the work in any medium, provided that proper citation is given to the original work and its source. It allows for attribution, non-commercial use, and the creation of derivative work.

Introduction

Nurses' job performance in hospitals is an important element in the provision of effective and efficient health services. Individual factors and the work environment play a crucial role in determining nurses' performance levels.⁽¹⁾ Previous studies have shown that nurses' individual, professional, and work environment characteristics have a significant influence on their performance. A positive work environment, including support from nurse managers, coworker solidarity, and education level, was shown to improve nurses' performance.⁽²⁾

Nurse performance remains a major concern globally, especially in developing countries that often face nursing shortages. Efforts to improve performance can be made through fair team collaboration and the implementation of transparent organizational procedures.⁽³⁾ The success or failure of the organization depends on the performance of nurses, nurses interact more often with patients so the quality of nurses must be improved to reduce the occurrence of errors.⁽⁴⁾

In addition, the physical and psychosocial environment in the workplace also affects nurses' performance. A study in a hospital in Nasiriyah, Iraq, found that nurses' satisfaction with their work environment was positively correlated with improved performance.⁽⁵⁾ Factors such as physical, chemical and biological environmental risks can positively or negatively impact nurses' performance.⁽⁶⁾

Nurses are often faced with demands to complete a large number of tasks in a limited amount of time.⁽⁷⁾ This situation can lead to burnout and stress, which in turn negatively affects nurses' performance and behavior in providing services to patients, and impacts work performance.⁽⁸⁾ Burnout and job stress in nurses can negatively affect their performance and behavior in providing services to patients, which in turn affects work performance.⁽⁹⁾

A meta-analysis showed that an improved work environment is associated with better nurse work outcomes, including a decrease in negative events such as medication errors and nosocomial infections.⁽¹⁰⁾ Factors such as workload, stress, and emotional exhaustion also affect nurses' performance, where a supportive work environment can reduce the negative impact of these factors.⁽¹¹⁾

Nurse performance is influenced by various factors, both internal and external.⁽¹²⁾ These factors include the leadership system, experience and professional competence, work environment, effective communication, administration, organizational support, and individual characteristics.⁽¹³⁾ Individual characteristics include age, gender, education level, marital status, and tenure, all of which can contribute to the quality of nurses' performance.⁽¹⁴⁾ This study aims to determine the relationship of individual characteristics and work environment with nurses' work performance in hospitals.

Methods

This study used a quantitative method with a cross-sectional study approach. The study population included all nurses in the inpatient room, totaling 134 people. Sampling was conducted using accidental sampling technique, with a total sample of 109 nurses. Inclusion criteria include executive nurses who work in the inpatient room, have a minimum work period of one year, and are not on leave. This inclusion criteria was used to ensure that the results of the study are more accurate, valid and relevant to the objectives of the study. Exclusion criteria included nurses who met the inclusion criteria but refused to participate, were on leave, or attending training outside the area when the study took place. The study was conducted at the Aceh Singkil District General Hospital in the inpatient room, with the implementation time from August 12 to 24, 2024. Data were collected using instruments in the form of questionnaires covering individual characteristics, work environment based on the American Nurses Credentialing Center, and work performance. Data were analyzed using the chi-square test and multiple logistic regression with predictive models.

Results

The results showed that the majority of respondents were 26-35 years old (56.9%), female (75.2%), and married (57.8%). Most of them have the last education DIII Nursing (51.4%), ASN status (86.2%), and have a working period of more than 5 years (82.6%). Respondents with PK II clinical authority with more than 4 years of service were 51.4%, and the most work units were class I & II hospital rooms (16.5%). In terms of work performance, most nurses had very good performance (47.7%) (Table 1).

Table 1. Respondents' individual characteristic factors

Variables	Frequency	%
Age		
26-35 Years	62	56.9
36-45 Years	47	43.1
Gender		
Male	27	24.8
Female	82	75.2
Marriage Status		
Married	63	42.2
Not married	46	57.8
Last Education		
Nurse Profession	53	48.6
Diploma III Nursing	56	51.4
Employment Status		
State Civil Apparatus	94	86.2
Non- State Civil Apparatus	15	13.8
Length of Service		
> 5 Years	90	82.2
≤ 5 Years	19	17.4
Clinic Authority		
Clinical Practice I (> 1 Tahun)	13	11,9
Clinical Practice II (> 4 Tahun)	56	51,4
Clinical Practice III (> 10 Tahun)	40	36,7
Work Unit		
Intensive care unit	13	11.9
Pulmonary TB Treatment Room	12	11
Pediatric Ward	15	13.8
Class I & II Hospitalization Room	18	16.5
VIP Classroom	12	11
Surgical Ward	14	12.8
Perinatology	8	7.3
Internal Medicine Ward	17	15.6

Continue.....

Nurse Work Achievement		
Very good	52	47.7
Good	31	28.4
Enough	26	23.9

The results of research related to the work environment can be seen in table 2 below:

Table 2. Factors related to the work environment

Variables	Frequency	%
Leadership Quality		
Effective	74	67.9
Ineffective	35	32.1
Leadership Style		
Effective	76	69.7
Ineffective	33	30.3
Manpower Program and policy		
Good	62	56.9
Less	47	43.1
Autonomy		
Good	74	67.9
Less	35	32.1
Professional Development		
Good	99	90.8
Less	10	9.2
Profesional Development		
Good	90	86.2
Less	19	13.8

Results showed that most respondents rated the quality of leadership as effective (67.9%) and the leadership style as effective (69.7%). Staffing programs and policies were mostly rated as good (56.9%), as were autonomy (67.9%) and interdisciplinary relationships, which were mostly rated as good (90.8%). In addition, professional development was mostly in the good category (86.2%) (Table 2).

The results of the Chi-Square test can be seen in table 3 below:

Table 3. Relationship between individual characteristics and work environment with nurses' work performance

Variables	Nurse Work Achievement						P-Value
	Very good		Good		Enough		
	n	%	n	%	n	%	
Age							
26-35 Years	29	46.8	13	21	20	32.3	0,029
36-45 Years	23	48.9	18	38.3	6	12.8	
Gender							
Male	8	29.6	5	18.5	14	51.9	0.000
Female	44	53.7	26	31.7	12	14.6	
Married Status							
Married	23	36.5	20	31.7	20	31.7	0.015
Not married	29	63	11	23.9	6	13	
Last Education							
Nurse Profession	36	67.9	8	15.1	9	12.6	0.000
Diploma III Nursing	16	28.6	23	41.1	17	30.4	
Length of Service							
> 5 Years	45	50	21	23.3	24	26.7	0.030
≤ 5 Years	7	36.8	10	52.6	2	10.5	
Leadership Quality							
Effective	41	55.4	23	31.1	10	13.5	0.001
Ineffective	11	31.4	8	22.9	16	45.7	
Leadership Style							
Effective	47	61.8	22	28.9	7	9.2	0.000
Ineffective	5	15.2	9	27.3	19	57.6	
Manpower Program and policy							
Good	40	64.5	14	22.6	8	12.9	0.000
Less	12	25.5	17	36.2	18	38.8	
Autonomy							
Good	43	58.1	20	27	11	14.9	0.001
Less	9	25.5	11	31.6	15	42.9	
Professional Development							
Good	50	50.5	49	49.5	0	0	0.097
Less	2	20	8	80	0	0	
Professional Development							
Good	49	52.1	45	47.9	0	0	0.042
Less	3	20	12	80	0	0	

The results showed that there was a significant relationship between age, gender, marital status, education, tenure, leadership quality and style, staffing programs and policies, autonomy, and professional development with nurses' work

performance ($p = 0, 029$), ($p=0.000$), ($p=0.015$), ($p=0.000$), ($p=0.030$), ($p=0.001$), ($p=0.000$), ($p=0.000$), ($p=0.001$), ($p=0.042$) However, interdisciplinary relationship did not show a significant relationship with work performance ($p=0.097$). The majority of

respondents who have good individual characteristics and work environment tend to show excellent work performance (Table 3).

All sub-variables have a p-value < 0.25 so they can be included in stage I modeling of multiple logistic regression (Table 4). Table 5 shows that of the 11 sub variables, 5 had a p-value ≤ 0.05 and were significantly associated with job performance. The professional development sub variable has the strongest relationship with Odds Ratio (OR) = 8.723 (95% CI 0.670-3.662), which means that nurses with good professional development have an 8.72 times greater chance of improving work performance.

Discussion

This study shows that factors such as age, gender, marital status, education, and tenure have a significant relationship with nurses' job performance. In addition, leadership quality and style, staffing programs and policies, autonomy, and professional development also play an important role in improving nurses' work performance.

A positive work environment, including support from nurse managers and good collegial relationships, has been shown to improve the quality of nurses' performance. Studies show that a supportive work environment can reduce job burnout and stress, and improve the quality of patient care. ⁽¹⁷⁾ This emphasizes the important role of nurse managers in creating a conducive work environment to improve nurses' performance. ⁽¹⁰⁾

However, interdisciplinary relationships did not show a significant association with nurses' job performance. This suggests that although interdisciplinary collaboration is important, other factors such as leadership and autonomy have more influence on nurses' performance. ⁽¹⁸⁾ The majority of respondents in this study who had good individual characteristics and work environment tended to show excellent job performance. This suggests that a combination of individual factors and a positive work environment can significantly improve nurses' performance. ⁽¹⁷⁾

A positive work environment also plays an important role in improving nurses' job performance. Studies show that a supportive work environment,

including good relationships between nurses and managers, as well as the availability of adequate resources, can improve nurses' performance. ⁽¹⁹⁾ A good work environment can also reduce stress and burnout, which in turn improves the quality of care provided. ⁽²⁰⁾

Burnout and job stress are significant challenges that can affect nurses' job performance. ⁽²¹⁾ A supportive work environment can reduce burnout and stress levels, ultimately improving quality of care and job satisfaction. Therefore, it is important for nursing managers to create a supportive work environment and reduce factors that can cause stress. ⁽¹⁰⁾

Effective leadership and support from nursing managers are essential in creating a positive work environment. ⁽²²⁾ Managers who are able to provide good support and guidance can improve nurses' performance and the quality of care provided. Good leadership can also encourage prosocial behavior among nurses, which contributes to improved individual and unit performance. ⁽²³⁾

Good collaboration between nurses and other healthcare professionals is also important to improve job performance. Positive working relationships with physicians and other members of the healthcare team can improve the quality of care and job satisfaction of nurses. ⁽²⁴⁾ This collaboration can also increase nurses' sense of responsibility and spiritual growth, which contributes to improved performance. ⁽²⁵⁾

Demographic characteristics such as gender and practice area also affect nurses' job satisfaction and achievement. For example, nurses working in emergency departments and pediatrics tend to have higher job satisfaction compared to those working in oncology. ⁽²⁶⁾ This suggests that work environment and job type may influence nurses' perceptions of their job performance.

A healthy and satisfying work environment is essential for improving nurses' job performance. Research shows that a healthy work environment can increase job satisfaction, reduce turnover, and improve quality of care. ⁽²⁷⁾ Therefore, efforts to create a healthy work environment should be a priority for nursing managers.

The results of further analysis of this study showed that the professional development sub variable showed the strongest relationship with work performance. This study is in line with the results of Yuan et al's study that improved job performance is supported by continuous training and professional attainment to increase nurses' motivation and commitment to nursing care.⁽²⁸⁾

Conclusion

Age, gender, marital status, education, tenure, leadership quality and style, staffing programs and policies, autonomy, and professional development have a significant relationship with nurses' work performance. The professional development sub-variable had the greatest influence, with nurses who received good professional development having an 8.72 times greater chance of improving their performance. In contrast, interdisciplinary relationships showed no significant influence on job performance. Overall, the combination of positive individual characteristics and a supportive work environment plays an important role in promoting optimal nurse work performance.

Recommendation: For further researchers to add variables related to work performance

Funding: There are no sources of funding.

Conflict of Interest: There are no conflict of interests.

Ethical Clearance: Approval has been obtained from the research ethics committee of the nursing faculty of Syiah Kuala University with the number 112014110624

References

1. Abed SN, Abdulmuhsin AA, Alkhwaldi AF. The Factors Influencing the Innovative Performance of Leaders in Nurses' Professional: a Developing Country Perspective. *Leadership in Health Services*. 2022;35(2):228-45.
2. Sarıköse S, Göktepe N. Effects of Nurses' Individual, Professional and Work Environment Characteristics on Job Performance. *J Clin Nurs*. 2022 Mar 20;31(5-6):633-41.
3. Abdelwahab Ibrahim El-Sayed A, Shaheen RS, Farghaly Abdelaliem SM. Collaborative Leadership and Productive Work Performance: The Mediating Role of Nurses' Innovative Behavior. *Int Nurs Rev*. 2024 Dec 13;71(4):868-78.
4. Sonoda Y, Onozuka D, Hagihara A. Factors related to teamwork performance and stress of operating room nurses. *J Nurs Manag*. 2018;26(1):66-73.
5. Kadhim H. Impact of Physical Work Environment upon Nurses' Job performance in Al-Nassiryah City Hospitals. *Iraqi National Journal of Nursing Specialties*. 2023 Jun 30;36(1):16-25.
6. Ali H, Qassem W. Impact of Work Environment on Nurses' Job Performance in Al-Nassiryah City Hospitals, Iraq. *Rawal Medical Journal*. 2023;48(2):506.
7. Fikri Z, Bellarifanda A, Sunardi S, 'Ibad MR, Mu'jizah K. The Relationship between Mental Workload and Nurse Stress Levels in Hospitals. *Healthc Low Resour Settings*. 2023 Dec 14;
8. MrsSB. Impact of Prolonged Working Hours, Work Stress and Fatigue among Nurses. *International Journal For Multidisciplinary Research*. 2023 Apr 19;5(2).
9. Cho H, Steege LM. Nurse Fatigue and Nurse, Patient Safety, and Organizational Outcomes: A Systematic Review. *West J Nurs Res*. 2021 Dec 8;43(12):1157-68.
10. Lake ET, Sanders J, Duan R, Riman KA, Schoenauer KM, Chen Y. A Meta-Analysis of the Associations Between the Nurse Work Environment in Hospitals and 4 Sets of Outcomes. *Med Care*. 2019 May;57(5):353-61.
11. Salomon GA, Sasarari ZA, Lontaan A, Keintjem F, Runtu LG. The Effect of Stress and Environment on Nursing Performance. *Jurnal Edukasi Ilmiah Kesehatan*. 2023 Aug 3;1(2):61-6.
12. Sarıköse S, Göktepe N. Effects of Nurses' Individual, Professional and Work Environment Characteristics on Job Performance. *J Clin Nurs*. 2022 Mar 20;31(5-6):633-41.
13. Alsadaan N, Salameh B, Reshia FAAE, Alruwaili RF, Alruwaili M, Awad Ali SA, et al. Impact of Nurse Leaders Behaviors on Nursing Staff Performance: A Systematic Review of Literature. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*. 2023 Jan 2;60.
14. Kuşcu Karatepe H, Türkmen E. Nurse Performance: A Path Model of Clinical Leadership, Creative Team Climate and Structural empowerment. *J Clin Nurs*. 2023 Feb 28;32(3-4):584-96.
15. Kagan I, Hendel T, Savitsky B. Personal Initiative and Work Environment as Predictors of Job Satisfaction among Nurses: Cross-Sectional Study. *BMC Nurs*. 2021 Dec 6;20(1):87.

16. Van Bogaert P, Kowalski C, Weeks SM, Van heusden D, Clarke SP. The Relationship between Nurse Practice Environment, Nurse Work Characteristics, Burnout and Job Outcome and Quality of Nursing Care: A Cross-Sectional Survey. *Int J Nurs Stud*. 2013 Dec;50(12):1667-77.
17. Feather J, McGillis Hall L, Trbovich P, Baker GR. An Integrative Review of Nurses' Prosocial Behaviours Contributing to Work Environment Optimization, Organizational Performance and Quality of Care. *J Nurs Manag*. 2018 Oct;26(7):769-81.
18. Wei H, Sewell KA, Woody G, Rose MA. The State of the Science of Nurse Work Environments in the United States: A Systematic Review. *Int J Nurs Sci*. 2018 Jul;5(3):287-300.
19. Abdou FF, El Mola MA, Elewa AH. Technical Nurses' Perception of Work Environment Factors that Affect their Performance. *Egyptian Nursing Journal*. 2023 May;20(2):237-45.
20. Falguera CC, De los Santos JAA, Galabay JR, Firmo CN, Tsaras K, Rosales RA, et al. Relationship between Nurse Practice Environment and Work Outcomes: A Survey Study in the Philippines. *Int J Nurs Pract*. 2021 Feb 16;27(1).
21. Kumar MYS, Bhalla P. Stress among Nursing Staff in Hospitals and its Relation with Job Satisfaction, Job Performance and Quality of Nursing Care: A Literature Review. *Journal of Nursing and Care*. 2019;8(3):129-36.
22. Albalawi AR, Albalawi SF, Alatawi SS, Alaamri AA, Alaamri RA, Alatawi AS, et al. Evaluating the Role of Nursing Leadership in Promoting a Positive Work Environment and Reducing Job Stress. *Journal of International Crisis and Risk Communication Research*. 2024;135-44.
23. Cho H, Han K. Associations Among Nursing Work Environment and Health-Promoting Behaviors of Nurses and Nursing Performance Quality: A Multilevel Modeling Approach. *Journal of Nursing Scholarship*. 2018 Jul 14;50(4):403-10.
24. Labrague LJ, Al Sabei S, Al Rawajfah O, AbuAlRub R, Burney I. Interprofessional Collaboration as a Mediator in the Relationship between Nurse Work Environment, Patient Safety Outcomes and Job Satisfaction among Nurses. *J Nurs Manag*. 2022;30(1):268-78.
25. Aisyah I, Astuti APK, Ridwan H, Lindasari SW, Handayani DS. Strengthening Caring Character Education for Prospective Nurses: An Action Research in Nursing Education. *International Journal of Learning, Teaching and Educational Research*. 2024;23(2):492-509.
26. Özer F, Sarı HY. Examination of the Relationship Between Missed Nursing Care and Job Satisfaction of Pediatric Nurses. *JOURNAL OF EDUCATION AND RESEARCH IN NURSING*. 2024;21(2):92-8.
27. Salehi T, Barzegar M, Saeed Yekaninejad M, Ranjbar H. Relationship between Healthy Work Environment, Job Satisfaction and Anticipated Turnover among Nurses in Intensive Care Unit (ICUs). *Ann Med Health Sci Res*. 2020;10(2).
28. Yuan, H., Chen, X., & Li, M. (2019). Effects of continuing professional development on nurse job satisfaction and quality of care. *Journal of Continuing Education in Nursing*, 50(5) 231-239
29. Putri, E.M. I. (2020). Caring-based Implementing Nurse Performance Assessment System. *Central Java Pena Persada*
30. American Nurses Credentialing Center (ANCC) (2008), *Application Manual Magnet Recognition Program Georgia*.

Nurse's Experience of Using Digital Support to Manage Work Related Stress at Pravara Rural Hospital: A Phenomenology Study

Heera Jayasheela¹, Rajendra Lamkhede², Kalpana Kale³, Sangita Vikhe⁴,
Sanjeev Kulkarni⁵, Helena Rosen⁶

¹Dean, Faculty of Nursing, ²Professor and Principal, ³Professor, Pravara Institute of Medical Sciences (Deemed to be University), Smt Sindhutai Eknathrao Vikhe Patil College of Nursing, Loni (Bk), District Ahmednagar, Maharashtra, India, ⁴Nursing Superintendent, Dr Vitthalrao Vikhe Patil Pravara Rural Hospital, ⁵Associate Professor, Microbiology, Dr Balasaheb Vikhe Patil Rural Medical College, Loni (Bk), *In-charge, Directorate of International Relations, PIMS-DU, Loni (Bk), ⁶University Lecturer, Lund University, Sweden.

How to cite this article: Heera Jayasheela, Rajendra Lamkhede, Kalpana Kale et. al. Nurse's Experience of Using Digital Support to Manage Work Related Stress at Pravara Rural Hospital: A Phenomenology Study. International Journal of Nursing Education / Vol. 17 No. 1, January-March 2025.

Abstract

Background: The World Health Organization (WHO) in 2020 has estimated the nursing shortage in India.¹ The objective of the study was to assess the nurse's perceptions towards digital support to manage work related stress. A qualitative descriptive is undertaken as a pilot project to explore nurses experience of using digital support to manage work related stress at Dr Vitthalrao Vikhe Patil, Pravara Rural Hospital, Loni (Bk), large tertiary care facility in Western India. It is part of a larger project "Nurses life world", a research cooperation with Lund University, Dalarna University and Skovde University Sweden. Thirty nurses were selected via purposive sampling. ATLAS.ti7 software tool for organization and analysis of qualitative data was used to analyze the verbatim transcript. Data was collected through open-ended interview guide questions and face-to-face individual interviews. Ethical considerations were applied to all stages of the study. The collected data was analyzed according to the content analysis method suggested by Graneheim and Lundman.

Results: The study resulted in six themes, six main categories and thirty five sub-categories. The themes includes: positive experience to digital support, implication features of digital stress apps, emerging innovative technology opportunities, difficulties and challenges of digit apps, future perspectives and seeking facilitators.

Conclusion: The present study shows the digital support is useful for the nurses to cope with work related stress. The study provides insight to develop appropriate stress management digital apps for nurses in the working environment to cope with occupational stress.

Keywords: Nurses experience, digital support, stress, phenomenological study

Corresponding Author: Heera Jayasheela, Dean Faculty of Nursing, Pravara Institute of Medical Sciences (DU), Smt Sindhutai Eknathrao Vikhe Patil College of Nursing, Loni (Bk), Maharashtra.

E-mail: heera.jayasheela00@gmail.com

Submission date: Oct 11, 2024

Revision date: Jan 13, 2025

Published date:

This is an Open Access journal, and articles are distributed under a Creative Commons license- CC BY-NC 4.0 DEED. This license permits the use, distribution, and reproduction of the work in any medium, provided that proper citation is given to the original work and its source. It allows for attribution, non-commercial use, and the creation of derivative work.

Introduction

Occupational stress is common among nurses. Professional stress is precursor to decrease job satisfaction, increased burn out, absenteeism and turnover of nursing staff. Stress and burn out among nurses correlates the quality of patient care.² Government of India (2020) had reported shortage of nurses in India, in addition to growing demands from patients and families for improved quality of care have put pressure on and caused distress among nurses. Research have showed occupational stress is positively associated to leaving the job.³ Studies reveals personal digital solution have potential to improve mental well being of nurses with support of nurse managers facilitation as nurses have key role to promote their own mental wellbeing by utilizing digital mental health solutions.⁴

The present study follows Medical Research Council Guidance framework and Criteria⁵ for reporting the development and evaluation of complex Intervention guidelines. The project is planned in four phases: Development (based on evidence by systematic literature study), Feasibility and piloting to (development support intervention tool), Evaluation (assess effectiveness of digital tools will be tested and interviewed with stakeholders) and Implementation (Dissemination, surveillance, monitoring and long term follow-up). The present pilot project explores nurse's perception on digital support to cope with stress in India

Materials and Methods

The present study aims to assess the nurse's perceptions towards digital support to manage work related stress. It is part of a larger project "Nurses life world", a research cooperation with Lund University, Dalarna University and Skovde University Sweden. This is a descriptive qualitative work of research with a content analysis design which was conducted from 2022 to 2023 at Dr Vitthalrao Vikhe Patil, Pravara Rural Hospital, Dist Ahmednagar, Loni (Bk), Maharashtra, India.

In total 30 nurses were enrolled by non-probability purposive sampling technique for the pilot study who were in practice in intensive care unit (medical, surgical, neonatal) medicine ward, surgery ward,

labour ward, oncologyward , casualty/emergency and paediatric ward. The inclusion criteria werethe nurses who belongs to age group above 21 years⁶, willing to participate and provide written informed consent and available during the study period. Nurses were selected based on characteristics such as age, gender, years of experience in the profession, and workplace. The nurses who were absent/ availed leave during data collection period were excluded from the study.

Data collection procedure

The present study was approved by Pravara Institute of Medical Sciences (DU), Ref No : PIMS/DR/CON/2022/483 dated: 29/04/2022. Formal Permission was obtained from the Medical Superintendent and Nursing superintendent of Dr Vitthalrao Vikhe Patil, Pravara Rural Hospital, Loni (Bk). The study materials (interview questions and informed consent forms) were approved by the Ethical Committee. Before interviews, participants were informed about the objectives and purpose of study. Assured for the confidentiality and anonymity of information. The participants were also informed that they were free to withdraw from the study at any point. The face-to- face interview began with general questions about demographic characteristics and then more specific open-ended questions related to the purpose of study based on interview guide questions. The original English structured questionnaire consisted of six components which was translated to Marathi language. Each interview lasted from 45 – 60 minutes. The audio recordings were used for verbatim transcription in English. ATLAS.ti⁷ software tool for organization and analysis of qualitative data was used to analyze the verbatim transcript. The present study used conventional content analysis method suggested by Graneheim and Lundman (2004). The contextual data was analyzed by systematic categorization, codification and theme emerged.⁷

Trustworthiness

In this study, different methods were used to increase the validity of the study. Based on their guidelines the interviews were transcribed first, reviewed the transcripts several times to find meaning units, initial codes were extracted and formed meaning unit and the researchers categorized the codes according to conceptual similarities and categories and subcategories emerged based on

analysis of unit. The data was coded and classified independently by the researcher and extracted codes were reviewed by the research team. Interviews were randomly selected and given to researchers familiar with qualitative methods but were not part of the study to announce their suggestions and feedback. Peer review and audit was carried out on data.⁸

Findings

Demographic characteristic of nurses at Dr Vitthalrao Vikhe Patil Pravara Rural Hospital results shows that 36.66 % of the nurses belong to age group of 31 to 40 years. In relation to gender 73.33% of the nurses were females. 46.66% of the nurses had 1 to 10 years of professional experience. In the present study 26.66% of the nurses were working in critical care unit, followed by medical ward, surgical ward, casualty, labour, oncology ward and paediatric ward. All demographic characteristics of the nurses are presented in Table No 1.

Table 1: Demographic characteristic of nurses at Dr Vitthalrao Vikhe Patil Pravara Rural Hospital
N =30

Demographic characteristics	Frequency	Percentage (%)
Age (Years)		
21- 30	6	20 %
31-40	11	36.66 %
41-50	10	33.33 %
Above 51	3	10 %
Gender		
Female	22	73.33 %
Male	8	26.66
Number of years in the profession		
1-10	14	46.66 %
11-20	6	20 %
Above 21 years	10	33.33 %
Workplace		
Medical ward	7	23.33 %
Surgery ward	4	13.33 %
Labour ward	3	10 %
Oncology ward	2	6.66 %
Casualty/Emergency	4	13.33 %
ICU (Medical, Surgical, Neonatal)	8	26.66 %
Paediatric ward	2	6.66 %

In the analysis of the 30 interviews, six themes, six main categories and thirty five sub-categories emerged in [Table No 2]. Results along with quotations are described in the following

Theme 1: Positive experience to digital support

According to the nurses, digital apps are beneficial at perceived situations in working area to cope with stress. This category consisted of the subcategories which includes providing patient care with updated latest medical technology, improves the quality of nursing care, facilitates diversion therapy, promotes communication, prevents medication errors, promotes laboratory interpretation and facilitates professional growth.

“ICU monitors operation was easy to operate by using digital app for patients care. Easy reference for antidote drug administration for poisoning in critical patient care Diversion therapy music therapy to administer medication for child which relieved my stress while performing nursing care. Digital App helps to identify the laboratory interpretation, diagnosis and promotes quality care to patients. I feel medication error is preventable by digital infusion pump reduces stress while working in critical care unit. During COVID-19 pandemic digital communications with health professionals promoted decision making for patient care which helped we nurses to cope up with stress”

Theme 2: Implication features to enhance digital stress apps

Nurses perceptions related to digital apps features to enhance for coping with stress, this category has sub-category it includes apps for reminder app on duty, yoga app, deep breathing exercise, meditation, Indian music apps, women’s healthy lifestyle app, nursing app for advanced nursing practice, cognitive behavioural apps, laughtertherapy apps, mHealth apps, self monitoring physiological parameters apps and apps for promote task performance.

“I feel Yoga App is best to relieve stress like stretching and walking, pranayama as Yoga can be practiced during working hours. Apps can include the self monitoring stress parameter like pulse, respiration and blood pressure for us. Alarm indicator denotes the next step for stress intervention. Laughter therapy apps can promote happy mood to enhance the performance during stress. Colour apps with meditations will be easy to visualise during working hours Different colours and movements of colour shade add diversion. Professional consultancy app during

work to include in app. Add Indian instrumental music Ring tones with Indian music help to reduce stress. As an ICU nurse, I feel alarm for reminder for easy work and app for drug dose calculation is useful.....I heard of mHealth App for managing stress”

Theme 3: Emerging innovative technology opportunities

Nurses expressed that digital apps promotes patient care, communications and innovative digital apps. This category consisted of the subcategories which include opportunities for easy feasibility patient care and safety, improving information documentation, management and monitoring, facilitating the communication management in technological environment, improving resource for E-learning, introduction of m Health app and facilitating pathways of organization growth.

“One of opportunities of digital support app for nurses helps to promote knowledge, easy access to all stress management app, and enhance knowledge for patient care. I feel apps reduce workload of documentation, easy access to stock, during COVID-19 pandemic the apps help the nurses and doctors to interact and helped nurses to take decision for patient care. Provision of Zoom platform meeting, Google meeting and E- learning sources and virtual mode conference is useful. I feel latest mHealth apps are success for digital support for nurses. I had opportunity to attend Zoom platform conference during COVID-19 pandemic, virtual meetings with staff nurses help us to update the information of pandemic and it was a learning experience for me”

Theme 4: Difficulties and challenges of digital app

Nurses view points in relation to challenges in success of digital app includes cost of digital Apps, lack of time, job related factors, language barrier, lack of training using digital technology, lack of network connectivity and psychological conditions issues

affect the utilization.

“I feel to utilise stress management app during working hours is difficult due to rules, critical area restrictions and personal psychological issues related to workload. Busy schedule in critical care units, very difficult to use app during patient care in restricted area to manage with stress...Electricity and Network range issues in critical units unable to access apps. I experience the difficult terms in different language in digital apps simplify difficult terms to understand, Digital apps is costly and my expertise in operation of digital apps is less”

Theme 5: Future perspectives

In the present study in relation for future contribution for development of digital app for stress almost all the nurses expressed willingness for consulting in development of digital apps for nurses to cope with work related stress.

“In India the digital app to manage stress among nurses must be prepared and I feel happy to be an part of it. Willing to contribute to develop digital support apps for our nurses. If I hear about developing new digital application for nurses, I would like to be involved, just to tell how it might be practical to work with.”

Theme 6: Seeking facilitators

In the present study nurses expressed senior nurses, nursing superintendent, assistant nursing superintendent and ward in-charges had experience work related stress and were able to consult through whatsapp, facebook and instagram.

“Working hours I feel comfortable to contact Nursing superintendent for managing stress. Ward in charge adopts digital apps to cope with stress during working hours, she practices yoga breathing techniques which helps me to minimise stress. I am comfortable to communicate with my superiors, nursing superintendent through WhatsApp during working hours”

Table 2: The theme, main categories and sub-category extracted from the data

Themes	Main Categories	Sub Categories
Positive experience to digital support	Perceived situations Experience of digital apps	Updated latest medical technology
		Improves the quality of nursing care
		Facilitates diversion therapy
		Promotes communication
		Prevents medication errors
		Promotes laboratory interpretation
		Prevents medication errors
		Facilitates professional growth

Continue.....

Implication features to enhance digital stress apps	Digital apps features for coping stress	Reminder app on duty
		Yoga app
		Deep breathing app (Pranayama)
		Meditation app
		Indian instrumental app
		Women's healthy lifestyle app
		Nursing app for advanced nursing practice
		Cognitive behavioural app
		Laughter apps
		mHealth apps
		Apps for self monitoring physiological parameters
Promote work performance		
Emerging Innovative technology opportunities	Promotes patient care	Easy feasibility patient care and safety
	Promotes communication	Improving information documentation, management and monitoring
		Facilitating the communication with superiors, colleagues, health professionals
	Innovative digital apps	E-learning, Zoomplatform, Google meeting
		Introduction of mHealth App
		Facilitating pathways of organization growth
Difficulties and challenges of digital app	Challenges of digital apps	Cost of the digital app
		Lack of time
		Job related factors
		Language barrier
		Lack of training using digital technology
		Lack of network connectivity
Psychological conditions issues affect the utilization.		
Future perspectives	Future involvement for digital apps	Willingness to contribute digitally based stress apps for nurses
Seeking facilitators	Resources for digital apps	Consulting senior nurses, administrators, ward in-charge, Nursing superintendent

Discussions

The study resulted in six themes, six main categories and thirtyfive sub-category. The themes includes: positive experience to digital support, implication features of digital stress apps, emerging innovative technology opportunities, difficulties and challenges of digit apps, future perspectives and seeking facilitators. According to the nurses, digital apps are beneficial at perceived situations in working area to cope with stress. This category consisted of the subcategories which includes providing patient care with updated latest medical technology, improves the quality of nursing care, facilitates diversion therapy,

promotes communication, prevents medication errors, promotes laboratory interpretation and facilitates professional growth. In parallel to the study was conducted by to review the effect of nurses use of smartphone to improve patient care identified major themes were communication, information access at the point of care time management and stress relief.⁹

Nurses perceptions related to digital apps features to enhance for coping with stress, this category has sub-category it includes apps for reminder app on duty, yoga app, deep breathing exercise, meditation, Indian music apps, women's healthy lifestyle app, nursing app for advanced nursing practice, cognitive

behavioural apps, laughter therapy apps, mHealth apps, self-monitoring physiological parameters apps and apps for promote task performance. A qualitative study to relieve stress revealed spiritual coping strategies to be used by clinical nurse practitioners.¹⁰ Study findings revealed nurse stated that the religious values based positive effect in challenging work situation. A study finding depicts nurses expressed prioritizing cognitive therapy to cope stress.^{11,12} Similar study results revealed nurses stated listening to music, praying meditation are coping strategy adopting during working hours.¹³

Nurses expressed that digital apps promotes patient care, communications and innovative digital apps. This category consisted of the subcategories which include opportunities for easy feasibility patient care and safety, improving information documentation, management and monitoring, facilitating the communication management in technological environment, improving resource for E-learning, introduction of mHealth app and facilitating pathways of organization growth. Similar study depicts nurses experience that digital technology had opportunities for improving medical and patient care, facilitate communication, improve resource management, policy making, professional growth and decision making.¹⁴

Nurses viewpoints in relation to challenges in success of digital app includes cost of digital Apps, lack of time, job related factors, language barrier, lack of training using digital technology, lack of network connectivity and psychological conditions issues affect the utilization. Studies revealed nurses perception in obstacle to digital support mentioned lack of training in utilisation of digital technology act.¹⁵

In the present study in relation for future contribution for development of digital app for stress almost all the nurses expressed willingness for consulting in development of digital apps for nurses to cope with work related stress. Nurses expressed their willingness to be facilitator for development of digital apps. Studies had revealed the nurses perceive their involvement for development of digital aids. The study was limited to nurses in one hospital which restricts generalization.

Conclusion

The current study explored nurse's perception of digital support with work related stress. The results shows digital support for work related stress is beneficial for nurses. In the future, the results of this study can be utilized for the development of digital support for nurses to promote sustainable learning.

Acknowledgements

The author(s) would like to thanks Hon'ble Chancellor Dr Rajendra Vikhe Patil, Pravara Institute of Medical Sciences (Deemed to be University) for the support offered to this study. We would like to appreciate the nursing staff of Dr Vitthalrao Vikhe Patil, Pravara Rural Hospital, Loni (Bk), who participated in this study. We convey our sincere thanks to the faculty of Lund University, Dalarna University and Skovde University, Sweden for their support and guidance.

Funding: Nil

Conflict of Interests: Nil

Ethical Approval and consent to participate

The present study was approved by Pravara Institute of Medical Sciences (DU), Ref No :PIMS/DR/CON/2022/483 dated 29/04/2022.

References

1. World Health Organization. Occupational Health. Geneva: World Health Organization; 2017 [cited 2023 Mar 03] Available from: <https://www.who.int/news-room/fact-sheets/detail/protecting-workers-health>.
2. Kesarwaani V, Hussain ZG et al. Prevalence and Factors associated with burnout among healthcare professionals in India: A systematic review and meta-analysis. *Indian J Psychol Med* 2020 Mar 9; 42 (2):108-115.
3. Baruah A, Das S, Dutta A, Das A, Das B, Sharma T, Hazarika M. Degree and factors of burnout among emergency health care workers in India. *International Journal of Scientific Research (Ahmedabad India)*. 2019 April ;8(4):41-45.
4. Tina Ilola, Mikael Malmisalo, Elina Laukka, Heli Lehtiniemi, Tarja Polkki, Maria Kaariainen. The effectiveness of digital solutions in improving nurses and health workers professionals' mental well being; A systematic review and Meta analysis. *Journal of Research in Nursing* 2024, 29 (2):97-109.

5. Skivington K, Matthews L, Simpson SA, Craig P, Baird J, Blazeby JM, Boyd KA et al. A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance. *BMJ*. 2021 Sep 30;374
6. Kishore D, Mohan N, K. Manjunath, Kashinath Metri, Natesh Babu, Basavaraj Angadi. Depression, Anxiety and Stress among nurses working in a tertiary care centre in Southern India. *Asian Journal of Medicine and Health* 2020 Sep 19;18 (9):147-152.
7. Graneheim U.H., & Lundman B. (2004). Qualitative content analysis in nursing research; concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*, 24(2), 105-112.
8. Dejong A, Donelle L, Kerr M. Nurses Use of Personal Smartphone technology in the workplace: Scoping Review. *JMIR Mhealth Uhealth* 2020;8(11):e18774
9. Schonfeld S, Rather I, Michaelsen MM, Hoetger C, Onescheit M, Lange S et al. Effect of mindfulness intervention comprising on App, Web-based Workshop, and a workshop on perceived stress among nurses and nursing trainees: Protocol for randomized controlled trial. *JMIR Res Protoc* 2022;11(8):e37195.
10. Rebekah K Hersch et al. Reducing nurses stress: A randomized controlled trial of a web-based stress management program for nurses. *Applied Nursing Research* Nov 2016;32:18-25
11. Chintha Kumari Perera, Rakesh Pandey, Abhay Kumar S. Role of religion and spirituality in stress management among nurses. *Psychological Studies*; 1 June 2018;63:187-199.
12. Kriakous SA, Elliot Ka, Lamers C, Owen R. The effectiveness of mindfulness-based stress reduction on psychological functioning of healthcare professionals: a systematic Review *Mindfulness (NY)*. 2021;12(1);1-28.
13. Waed Shiyab, Kaye Rolls, Caleb Ferguson, Elizabeth Halcomb. Nurses Use of mHealth Apps for chronic conditions: Cross-sectional Survey. *JMIR Nursing* 2024;7:e57668.
14. Farokhzadian J, Khajouei R, Hasman A, Ahmadian L. Nurses experiences and viewpoints about the benefits of adopting information technology in health care; a qualitative study in Iran. *BMC Medical Informatics and Decision Making* 2020 Sep 21;20(1)240.
15. Baumann H, Heuel L, Bischoff LL et al. mHealth interventions to reduce stress in health workers (fitcor): study protocol for a randomized controlled trial. *2023 Trails* 24:163.

Perception of Combine Method of Teaching on Learning among Student Nurses in Ebonyi State Nigeria: Lecture and Facilitation Methods

Ikwor Oyiri Juliet¹, Makata Ngozi. E², Odikpo Linda C², Ndubuisi Sunday F³,
Obende Eyito Beatrice⁴, Uzoegbo Helen N.⁵

¹College of Nursing Sciences, Mater Misericordiae Hospital Afikpo Ebonyi State, ²Department of Nursing Science Nnamdi Azikiwe University Awka Anambra state Nigeria, ³Department of Nursing Services, Irrua Specialist Teaching Hospital, Irrua Edo State Nigeria, ⁴Department of Nursing Science Edo State University Uzairue Edo state Nigeria, ⁵Department of Nursing Services, Nnamdi Azikiwe University Teaching Hospital Nnewi Anambra state Nigeria.

How to cite this article: Ikwor Oyiri Juliet, Makata Ngozi. E, Odikpo Linda C et. al. Perception of Combine Method of Teaching on Learning among Student Nurses in Ebonyi State Nigeria: Lecture and Facilitation Methods. International Journal of Nursing Education / Vol. 17 No. 1, January-March 2025.

Abstract

Introduction: Exploration of innovative teaching and learning methods to ascertain the modest means of imparting knowledge with the aim of producing ambidextrous students is ongoing; this study aims to determine the perception of the combined method of teaching on learning among student nurses in Ebonyi State, Nigeria: lecture and facilitation methods.

Method: Mixed design (survey and quasi-experimental research designs) was adopted. A purposive sampling technique was employed to collect data from 242 student nurses in Ebonyi State. A researchers-developed questionnaire was used for data collection while collated data were analysed and presented in percentages, means, standard deviations, and t-tests.

Result: The pre-intervention test was below average (25.5%), and the respondents perceive the combined lecture-facilitation method as not very effective in their learning; however, the post-intervention test results were 93.5% and 89.9% from each school, the result was statistically significant (P-value 0.000) which shows that the combined-facilitation technique is a very effective teaching method.

Conclusion: Despite the wide difference in the post test, which evidenced the effectiveness of the combined method, the student saw the method as not very effective, hence the need to emphasis and implement the use of the combined lecture-facilitation method to change their perception towards the teaching approach.

key Words: Perception, Teaching, Learning, Student nurses, Combine method

Corresponding Author: Ndubuisi Sunday F, Department of Nursing services, Irrua Specialist Teaching Hospital, Irrua Edo State Nigeria.

E-mail: sundayfelixndubuisi@gmail.com

Submission date: Jan 7, 2025

Revision date: Jan 22, 2025

Published date:

This is an Open Access journal, and articles are distributed under a Creative Commons license- CC BY-NC 4.0 DEED. This license permits the use, distribution, and reproduction of the work in any medium, provided that proper citation is given to the original work and its source. It allows for attribution, non-commercial use, and the creation of derivative work.

Introduction and Background of the Study

Education is constantly evolving, and imparting worthwhile education may require the understanding of the relationship between teaching and learning vis-à-vis the individuals involved and the teaching environment. Teaching to meet all student needs is difficult because of their disposition and background [1]; hence, increase interest in exploring various teaching methodologies to enhance learning outcomes. Medical Surgical Nursing is a core course in the nursing education curriculum, imparting relevant knowledge would improve quality of nursing care and help enhance nursing profession. It is evident among institutions of learning that there is gradual migration from military approaches and lecture-based to facilitation-based teaching approaches [2].

The effectiveness of traditional lecture methods has been questioned over time [3], especially in terms of fostering deep learning and critical thinking. Studies had shown that lecture methods are often criticised for their one-way nature [4], where students passively receive information [5]. However, they remain a staple in many educational settings due to their efficiency in delivering a large volume of content in a short period [6].

On the other hand, facilitative teaching focuses on encouraging active participation, collaboration, and inquiry-based learning. This method has been shown to increase student motivation, engagement, and understanding [7]. It emphasises a learner-centred environment where students take responsibility for their learning through discussions, problem-solving, and real-world applications [8].

Recent studies indicated that blended or combined teaching methods (a mix of traditional lectures and facilitative approaches) may offer the best of both worlds. For instance, it was revealed that students in a blended learning environment performed better in assessments and demonstrated higher levels of critical thinking [9]. [10] posited that combined method enables teachers to tailor their styles of teaching to student needs and appropriate subject matter. Teaching approaches can be differentiated instruction and a balanced blended style of teaching can meet all students need in a given classroom [11] and not just

the few who respond well to one particular style of teaching.

Lecture method involves direct teaching, where the teacher imparts knowledge in a structured way, usually with little interaction. In contrast, a Facilitation approach involves the teacher acting more as a guide or facilitator, helping students to actively engage in their own learning [12]. There may be no best approach to the imparting of knowledge however, both teaching and facilitation are effective instructional techniques, but each is appropriate for particular educational objectives and scenarios. Educators who are able to apply both methods strategically and effectively can realize greater success in delivering information and empowering students [11][13]. This study therefore explores the integration of Lecture and Facilitative methods to improve student learning, understanding, and critical thinking skills. The primary aim is to determine Ebonyi state student nurses perception on the use of combine methods of teaching on learning.

Research questions

1. What is the pre-intervention performance of the students in schools of nursing Ebonyi State Nigeria?
2. What are the perceptions of students in schools of Nursing Ebonyi State with regard to effectiveness of lecture-facilitation teaching technique on their learning?
3. What is the effectiveness of the combination of lecture and facilitation methods of teaching on learning among students in school of Nursing, Ebonyi State?

Hypothesis

H₁. There is no Significant difference between pre and post intervention test results of the students in schools of nursing Ebonyi State Nigeria.

Material and Methods

Study Design: Mixed design (survey and quasi-experimental research designs) was adopted to meet the researcher objectives of study.

Setting/subjects: The population of the study were student nurses from the School of Nursing, Federal Teaching Hospital Abakaliki, and the School of Nursing, Mater Misericordiae Hospital Afikpo,

Ebonyi State; these schools were fully accredited by the Nursing and Midwifery Council of Nigeria at the time of this study. Purposive sampling technique was used in this study because of the homogenous nature of the courses taken by the students at that level. The total number of student (244) from both school was adopted for this study because of the small population size.

Table 1: Population distribution of the student

Year of Study	SON, FETHA	SON, Mater Hospital Afikpo	Total
Second year	48	66	114
Third year	60	70	130
TOTAL	108	136	244

Source of data: Class registers of students in each year and school

Inclusion Criteria: Only 200 and 300-level students of the selected schools of nursing, willing to participate and available at the time of the study.

Ethical Consideration: Before the collection of data from the participant. Permission was sought from Research and Ethical Committee of Federal Teaching Hospital Abakaliki (FETHA) and the administrator Mater Misericordiae Hospital, Afikpo. The sought and collected approval, dated 13th December 2019 with reference number FETHA/REC/VOL.2/2019/304 was presented to the head of department of nursing sciences in both schools independently.

Oral and written informed consent was obtained from participants after elucidating the purpose of this study. The right to refused participation, pledge of confidentiality and anonymity was also make known to the participant before data collection

Data Collection Instrument: Researchers-developed questionnaire titled Student's Opinion of Teaching Survey Questionnaire (SOTS-Q) was used to collect data for the study. The questionnaire had two sections. A 3-item section A for demographic characteristics of the respondents and a 10-item likert-like section B to elicit respondents opinions on their learning experiences regarding the effectiveness of combined teaching methods measured on a four-point scale of Strongly Agree 4 points, Agree 3 points, Disagree 2 points, Strongly Disagree 1 point.

Students' test results scores before and after exposure to teaching method formed the second part of the instrument for data collection. Face and content validity of the tool were determined by subject experts based on the objective of the study. Reliability of the instrument was determined by administering the instrument to 26 students of similar school of nursing, which gave a Cronbach alpha of 0.881.

Method of Data Collection: Baseline knowledge of the student participants was assessed through the administration of pre-tests on trauma and infection of the nervous system in medical-surgical nursing with the assistance of the lecturers in each school. The teachers in the two schools were requested to be engaged to teach the students on head injury (trauma), meningitis, and encephalitis (infection of the nervous system) using the combined lecture-facilitation method. This was because medical-surgical nursing is taught in second and third years. The topic was taught using the same method of teaching for the two Schools of Nursing. After the pre-test, student were given an assignment on head injury, meningitis and encephalitis same day, two days after, a two hour lecture on head injury was given followed by another two hours lecture on meningitis and encephalitis the next day: Then, a post-intervention test was administered a day after the two-day lecture. Altogether, five working days were utilised. This process was done simultaneously in both schools. Participants scores in the test were graded in percentages.

Method of Data Analysis: Collated data was entered in Statistical Package for Social Sciences (SPSS) Windows version 22 for analysis. The demographic data was analysed using frequencies while research questions were represented in percentages, means, and standard deviations. The means was determined using a score of 2.5 as decision criteria. The hypothesis was tested with a t-test at a 0.05 level of significance.

Result

Research Question 1. What is the pre-intervention test status/performance of the students in schools of nursing Ebonyi State Nigeria.

Table 2: Pre-intervention mean test Results of the Students in Schools of Nursing Ebonyi State.

Name of School	SON FETHA	SON Mater Hospital	Total (N)	Average score (%)
Number of Participants	108	134	242	
Scores of the Students (%)	21.6	29.4	51	25.5

Table 2 shows that the pre-intervention test scores of the participants before exposure to any of the teaching methods were 21.6% and 29.4% for SON FETHA and SON Mater Hospital, respectively. The overall percentage pre-test result was 25.5%. These results imply that the students' pre-test status/performance before the introduction of any of the

teaching methods was below average (less than 50%).

Research Question 2: What is the perception of students in schools of Nursing, Ebonyi State with regard to effectiveness of lecture-facilitation teaching technique in their learning.

Table 3: Perceptions of Respondents on Effectiveness of Combined Lecture-Facilitation Teaching technique

Question items	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	SD
Mental Activity: when combined lecture-facilitation is used to teach me:						
1. My critical thinking ability was stimulated	124(51.2)	108(44.6)	10(4.1)	0(0)	1.5289	0.57722
2. I am able to synthesize and organise ideas	94(38.8)	138(57.0)	8(3.3)	2(0.8)	1.6612	0.58407
Average mean score					1.59505	0.58065
Course Organisation and Planning: when combined lecture-facilitation method is used to teach me:						
3. Contents are presented in an organised way	111(45.9)	118(48.8)	12(5.0)	1(0.4)	1.5992	0.60468
4. The class time is well utilised	95(39.3)	126(52.1)	17(7.0)	4(1.7)	1.7107	0.66866
Average mean score					1.65495	0.63667
Communication: when combined lecture and facilitation is used to teach me:						
5. it was easy for me to ask questions during the class	109(45.0)	106(43.8)	26(10.7)	1(0.4)	1.6653	0.68137
6. my attentiveness during the class increased	118(48.8)	106(43.8)	13(5.5)	5(2.1)	1.6074	0.68689
Average mean score					1.63635	0.68412

Continue.....

Teacher/Student Interaction: when combined lecture-facilitation is used to teach me	107(44.2)	115(47.5)	17(7.0)	3(1.2)	1.6529	0.66583
7. My attentiveness is stimulated throughout the period of teaching	97(40.1)	125(51.7)	15(6.2)	5(2.1)	1.7025	0.67737
8. I learn more through my participation in the learning activities					1.6777	0.6716
Average mean score						
Course Outcomes: when combined lecture and facilitation is used to teach me;						
9. The quality of Instruction as it contributed to my learning is high	100(41.3)	127(52.5)	13(5.4)	2(0.8)	1.6570	0.61964
10. This method (combined Lecture-facilitation) is the most preferred teaching technique by me.	101(41.7)	113(46.7)	23(9.5)	5(2.1)	1.7190	0.71988
Average mean score					1.688	0.66976
OVERALL MEAN					1.65041	0.64856

Table 3 shows the perceptions of the respondents concerning the effectiveness of the combined lecture-facilitation teaching method. The table indicates that the average mean scores for each sub-section are as follows: Mental Activity: 1.59505; Course Organisation and Planning: 1.65495; Teacher/student Interaction: 1.63635; Teacher/student Interaction: 1.6777; Course Outcomes: 1.688, while the overall mean is 1.65041.

The results indicated that respondents perceive the combined lecture-facilitation method as not very effective in their learning.

Research Question 3: What is the effectiveness of the combination of lecture and facilitation methods of teaching on learning among students in school of Nursing, Ebonyi State.

Table 4 Post Combined Lecture-Facilitation Teaching Method test Performance of students in Schools of Nursing, Ebonyi State.

Name of School	SON FETHA	SON Mater Hospital	Total (N)	Average score (%)
Number of Participants	108	134	242	
Scores of the Students (%)	93.5	89.9	183.4	91.7

Table 4 shows that the average values of post-tests for School of Nursing FETHA and SON Mater Hospital are 93.5% and 89.9% respectively. These results demonstrate that combined-facilitation technique is a very effective teaching method.

Hypothesis: There is no Significant difference between pre and post intervention test results of the students in schools of nursing Ebonyi State Nigeria..

Table 5: t-test of Comparison between the pre and post intervention test results of the students in schools of nursing in Ebonyi State, Nigeria (Combined Lecture-facilitation Teaching method)

Number of Participants	T	Df	P-Value
242	62.678	240	0.000

From table 5, the t-test is 62.678, and the P-value is 0.000 which is less than the level of significance 0.05. Therefore, the hypothesis that significant difference does not exist between the pre and post intervention test results of the students in schools of nursing in Ebonyi State Nigeria is rejected .Hence, significant difference exists between pre and post test pre- intervention test results(for combined lecture-facilitation teaching method) of the nursing students in Schools of Nursing, Ebonyi State.

Discussion

Research Question 1: What is the pre-intervention status/performance of the students in schools of nursing Ebonyi State Nigeria?

The pre-intervention status of the students was poor. The performance of the participants before the exposure to any of the teaching methods was below average for all the schools. This result is similar to the findings of [14], whose study revealed low performance among respondents. The poor performance of the participant could be attributed to the student, the tutor, or the environmental factor as Medical Surgical nursing is a core nursing course taught from second year and could be said not to be strange or too abstract to these students

Research Question 2: What are the perceptions of students in schools of Nursing Ebonyi State with regard to effectiveness of lecture-facilitation teaching technique on their learning?

The majority of the respondents viewed the combined lecture-facilitation method of teaching as

weak in stimulating their mental activity, teacher/student interaction, and course outcome. This finding is consistent with [15], where students reveal weak critical thinking after being exposed to the combined method of teaching in Indonesia. On the contrary, [11][16] revealed improvement in student learning with a moderately high level of independence after exposure to the blended learning method. The outcome of this study perhaps could be attributed to anxiety and fear of making mistakes by the students in the course of expressing self during classroom interaction termed the inhibition factor [17]. Furthermore, lecture method being a prevalent mode of instruction, introduction of new and innovative instructional methodologies to these students might not be readily embraced by these student. Nursing and Midwifery Council of Nigeria has some years ago developed modules and trained nurse educators and inculcated students centred learning and innovative teaching strategies in it curriculum so this finding is surprising as it was expected that students ought to have been exposed to theses teaching learning methodologies from the inception of their studies and could have resulted to a more positive perception to these teaching learning strategies.

What is the effectiveness of the combining lecture and facilitation methods of teaching on learning among students in school of Nursing, Ebonyi State?

The findings in this study showed that the combined lecture-facilitation method of teaching is effective, as demonstrated by the students' post test scores. The result of this study is in consonant with the results of [11][16], whose findings revealed that the blended method improved student outcomes positively. Studies had shown that mixed teaching techniques improve student self-abilities by personalising learning and improving individual engagement in studies [10].

Ho. There is no Significant difference between pre and post intervention test results of the students in schools of nursing Ebonyi State Nigeria.

The result of this study shows that there is a significant difference between the pre- and post-test intervention test results of the students in schools of nursing in Ebonyi State, Nigeria. This finding is in tandem with [11][14], whose study revealed a higher

level of knowledge and understanding amongst the respondents after being exposed to the teaching.

Conclusion

The respondent perceived the combined lecture-facilitation method of teaching on learning as not very effective; however, there was an increase in knowledge gained by the students. which was reflected in the increase, above average in their post-test score. Therefore, the combined lecture-facilitation method is a very effective teaching/learning technique. Factors emanating from the student, the educator, and the environment could limit student performance. To this end, it is recommended that teachers continuously expose students to this method while other innovative pedagogies are looked into to get the best of every student in the classroom.

Compliance with ethical standard

Conflict of interest: There is no conflict of interest to be disclosed

Informed consent: Inform consent was obtained from each respondent in this study

Source of funding: The study was self sponsored

References

- Joyce B, Calhoun E. Models of teaching. Taylor & Francis; 2024 Jul 25 chapter 1.
- Everiss DJ. From the parade ground to the classroom: A critically reflective exploration of an educator's journey from military instructor to learning facilitator. Essex Student Journal. 2023 Jul 3;14(1).
- Hadad S, Shamir-Inbal T, Blau I, Leykin E. Professional development of code and robotics teachers through small private online course (SPOC): Teacher centrality and pedagogical strategies for developing computational thinking of students. Journal of Educational Computing Research. 2021 Jul;59(4):763-91.
- Abdulbaki K, Suhaimi M, Alsaqqaf A, Jawad W. The impact of using the lecture method on teaching English at university. European Journal of Education Studies. 2018 May 1.
- Kay R, MacDonald T, DiGiuseppe M. A comparison of lecture-based, active, and flipped classroom teaching approaches in higher education. Journal of Computing in Higher Education. 2019 Dec;31:449-71.
- Burns M. Distance Education for Teacher Training: Modes, Models, and Methods. Education Development Center, Inc.. 2023.
- Ali SS. Problem based learning: A student-centered approach. English language teaching. 2019;12(5):73-8.
- Doyle T. Helping students learn in a learner-centered environment: A guide to facilitating learning in higher education. Taylor & Francis; 2023 Jul 3.
- Jaswal P, Behera B. Blended matters: Nurturing critical thinking. E-Learning and digital Media. 2024 Mar 1;21(2):106-24.
- Meng X, Niu D, Ding L, Wang L. Research on the effect of mixed teaching strategies on students' ambidextrous innovation. Studies in Educational Evaluation. 2024 Dec 1;83:101390.
- Chen J. Effectiveness of blended learning to develop learner autonomy in a Chinese university translation course. Education and Information Technologies. 2022 Nov;27(9):12337-61.
- Olugbenga M. The learner centered method and their needs in teaching. International Journal of Multidisciplinary Research and Explorer. 2021 Oct 25;1(9):64-9.
- Wise D. Teaching or facilitating learning? Selecting the optimal approach for your educational objectives and audience. The Journal of Extension. 2017;55(3):6.
- Kumari M, Amutha V, Kaur J. A Pre-Experimental Study to Evaluate the Effectiveness of Structured Teaching Programme on Knowledge Regarding Lead Poisoning among Mothers of Under-Five Children in Selected Areas at Mukerian, Punjab. INTERNATIONAL BOARD. 2024 Jan;16(1):40.
- Asrowi A, Maulana I, Budiarto MK, Qodr TS. Assessing critical thinking skills in vocational school students during hybrid learning. Journal of Education and Learning (EduLearn). 2025 Feb 1;19(1):232-40.
- Ye Q, Tse AW. The Influence on Undergraduate Students' Critical Thinking Skills through the Integration of Outside-In Blended Learning Activities in Problem-Based Learning Environment. In Proceedings of the 15th International Conference on Education Technology and Computers 2023 Sep 26 (pp. 273-279).
- Hijra H, Rahim TR, Syarif AR. Barriers to Oral Proficiency: Exploring Causes of Speaking Inhibition in EFL Learners. KLASIKAL: JOURNAL OF EDUCATION, LANGUAGE TEACHING AND SCIENCE. 2024 Aug 14;6(2):409-18.

The Prevalence of Smoking and Associated Risk Factors among Students at Secondary School in Hodeidah Governorate

Mohammed Ahmed Suhail¹, Khaled AL-Selwi¹, Sadeq Abdo Mohammed Alwesabi^{2,3},
Khaled Mohammed Al-Sayaghi^{4,5}, Mogeab saeed Taha⁶, Elsadig Eltaher Hamed³,
Elwaleed Idris Ali Sagiron⁷

¹Medicine Division, Faculty of Medicine and Health Sciences, Al-Hodeidah University, ²Nursing Division, Faculty of Medicine and Health Sciences, Al-Hodeidah University, ³Department of Medical Surgical Nursing, College of Nursing, Najran University, Najran City, Saudi Arabia, ⁴Department of Medical Surgical Nursing, College of Nursing, Taibah University, Al-Madinah Al-Munawwarah, Saudi Arabia, ⁵ Nursing Division, Faculty of Medicine and Health Sciences, Sana'a University, Sana'a, Yemen, ⁶ Medical Laboratories Division, Faculty of Medicine and Health Sciences, Al-Hodeidah University, ⁷Department of Community and Mental Health Nursing, College of Nursing, Najran University, Najran City, Saudi Arabia.

How to cite this article: Mohammed Ahmed Suhail, Khaled AL-Selwi, Sadeq Abdo Mohammed Alwesabi et. al. The Prevalence of Smoking and Associated Risk Factors among Students at Secondary School in Hodeidah Governorate. *International Journal of Nursing Education* / Vol. 17 No. 1, January-March 2025.

Abstract

Smoking is a significant public health concern, particularly in developing countries, with over one billion individuals engaging in tobacco use globally. **This study aimed** to investigate the prevalence of smoking and associated risk factors among secondary school students in Hodeidah governorate, Yemen, in 2022. **Methodology:** A descriptive cross-sectional design was employed, involving a sample of 1,000 students from urban and rural areas, selected through a simple random sampling technique. Data was collected using a self-administered structured questionnaire covering demographic details, smoking habits, risk factors, and perceptions. The data was analyzed using IBM SPSS (version 28), employing descriptive and inferential statistics, with Chi-square tests to evaluate relationships between variables.

The results showed that 21.8% of students were smokers, with smoking prevalence higher among rural residents (22.3%) and females (26.8%). Socio-demographic factors such as gender and marital status significantly influenced smoking behavior, with divorced students exhibiting the highest smoking rates (75%). The study also revealed significant associations between smoking and having relatives or friends who smoke. These findings highlight the need for targeted smoking prevention strategies that consider demographic variations, focusing on early interventions in schools, community engagement, and culturally sensitive approaches to reduce smoking rates among adolescents in Yemen.

Corresponding Author: Sadeq Abdo Mohammed Alwesabi, Nursing Division, Faculty of Medicine and Health Sciences, Al-Hodeidah University.

E-mail: salwsaby@yahoo.com, <https://orcid.org/0000-0002-7075-7880>

Submission date: Oct 2, 2024

Revision date: Nov 4, 2024

Published date:

This is an Open Access journal, and articles are distributed under a Creative Commons license- CC BY-NC 4.0 DEED. This license permits the use, distribution, and reproduction of the work in any medium, provided that proper citation is given to the original work and its source. It allows for attribution, non-commercial use, and the creation of derivative work.

Conclusion: The study highlights a notable prevalence of smoking among secondary school students, with gender, residency, and marital status as key determinants of smoking behavior. Female students and rural residents showed higher smoking rates, indicating a need for targeted interventions.

Keywords: smoking prevalence, adolescents, secondary school, risk factors, Yemen, Hodeidah.

Introduction

Smoking is one of the most common forms of recreational drug use. Tobacco smoking is the most popular form, being practiced by over one billion people globally, of whom the majority are in the developing countries. [1]

Smoking generally has negative health effects, because smoke inhalation inherently poses challenges to various physiologic processes such as respiration. Smoking tobacco is among the leading causes of many diseases such as lung cancer, heart attack, COPD, erectile dysfunction, and birth defects.

Diseases related to tobacco smoking have been shown to kill approximately half of long-term smokers when compared to average mortality rates faced by non-smokers. Smoking caused over five million deaths a year from 1990 to 2015. [2] The health hazards of smoking have caused many countries to institute high taxes on tobacco products, publish advertisements to discourage use, limit advertisements that promote use, and provide help with quitting for those who do smoke. [1] Many smokers begin during adolescence or early adulthood. [3] During the early stages, a combination of perceived pleasure acting as positive reinforcement and desire to respond to social peer pressure may offset the unpleasant symptoms of initial use, which typically include nausea and coughing. After an individual has smoked for some years, the avoidance of withdrawal symptoms and negative reinforcement become the key motivations to continue.

More recently, other neurological diseases such as Parkinson's disease (PD) and Alzheimer's disease (AD) have also been studied in relation to smoking. Smoking is practiced by using flaming tobacco and inhaling the smoke. Smoking has been broadly studied in association to diverse neurological disorders (NDs), mainly vascular and degenerative diseases such as AD, Parkinson's disease, anxiety, and stroke. [3]

Recently, many researchers have investigated the effects of smoking on cognitive functions. Most of these studies showed a decline in cognitive function that is attributed to the effects of cigarette smoke exposure [4-5]

Members of below poverty line smoke cigarettes spend 40% of their earnings at the price of the necessities pushing them to further poverty. [6] There is inverse relationship observed between tobacco smoke and the income group. Cigarette smoking is mostly observed in the lower socio-economic status group. [7]

Cigarette smoking hampers the socioeconomic development of the country as death in half of cigarette smokers occur in economically productive age group. [8]

Every year 3 million people die due to smoking according to WHO estimates [9]. The major health problem is cigarette smoking among children and adolescents [10]. Today an estimated 150 million young people use tobacco [11]. Studies indicate that smoking among adolescents is rising, especially among boys. The Global Youth Tobacco Survey (GYTS) reported that about 9% of Yemeni students aged 13-15 years are smokers, with boys smoking more than girls. According to the GYTS, about 10.1% of Egyptian students (aged 13-15 years) use some form of tobacco. Around 7.1% are cigarette smokers. In Jordan the smoking among youth is high. The GYTS in Jordan showed that around 22% of students aged 13-15 years are tobacco users, with about 18.3% smoking cigarettes and a significant portion using waterpipes. Waterpipe smoking is often seen as less harmful but is widely used among youth [12]. Majority of tobacco users worldwide began when they were adolescents. It is the age of transition of mind, and they tend to be experimenting new things. They are vulnerable to changes happening around them. Their minds are very much influenced by the peer pressure, the affect being greater than the influence from members of the house. According to Global Adult Tobacco Survey (GATS) among minors (15- 17), 9.6% consumed

tobacco in some form and most of them were able to purchase tobacco products [13] Research on smoking in the Yemen is crucial due to its high prevalence, especially among youth and women, alongside unique cultural and social factors. Waterpipe use is widely accepted and perceived as less harmful, contributing to rising tobacco use, particularly among adolescents. Peer pressure, aggressive marketing by tobacco companies, and weak enforcement of tobacco control policies exacerbate the issue. Additionally, gender dynamics are shifting, with increasing smoking rates among women. The region's healthcare systems, already under strain, face significant burdens from tobacco-related diseases, making localized research essential to inform effective prevention strategies, stronger regulations, and public health interventions.

The role of nurses; From a nursing education perspective, nurses play a critical role in tobacco prevention and cessation efforts within Yemen. Nursing programs must emphasize tobacco-related health education, equipping future nurses with the skills to counsel patients on the risks of smoking. In addition, nurses can advocate for stronger tobacco control policies and contribute to public health campaigns by raising awareness about the harmful effects of smoking, including waterpipe use.

Aim of the study: The prevalence of smoking and associated risk factors among students at secondary school at Hodeidah governorate, Yemen 2022.

Objectives

1. To identify prevalence of smoking among students of secondary school.
2. To assess association between participants socio-demographic and smoking habit.
3. To find relationships between demographic data and risk factors with smoking among students at secondary school

Methods

Design

Descriptive cross-sectional design was used to achieve the aim of the study

Setting

Secondary schools at Hodeidah governorate, Yemen. Hodeidah is a coastal governorate at the

west of Yemen. It is one of the highest population governorates in Yemen.

Sampling

The sample was collected using simple random technique.

The conference sample included 1000 participants during study period during from December 2022 to February 2023

Data collection method

The subject of the scientific research was chosen and presented to the scientific committee in the faculty, then approval was taken. The questionnaire was written then it was approved by them and permission was taken to present it to the Education Office in Hodeidah governorate after that 50 pilot samples were taken, according to pilot result, the questionnaire was corrected and 1000 samples collected then analyzed by using SPSS (version 28).

Self-administrated structured modified questionnaire with closed questions used, which consist of four parts: demographic data, smoking habit, risk factors and perception

Pilot study

A pilot study was conducted with a convenience sample of 20 secondary students. Descriptive statistics were employed to evaluate the pilot study data, focusing on metrics such as response rates, survey completion times, and participant feedback on the survey's content and format. To measure the internal consistency of the survey items, Cronbach's alpha coefficient was calculated. Participants in the pilot study were excluded from the main study to prevent duplication and maintain the integrity of the data analysis. The questionnaire was modified according to the results

Validation of Questionnaires

The validity of the questionnaires was approved by 5 Medical Professionals. The reliability of the tools was assessed using Cronbach's alpha, with values of 0.84, 0.85, and 0.78, respectively.

Ethical consideration

Ethical clearance was obtained from faculty of Medicine & Health scientific in Hodeidah

University; on 13/ 11/2022 Reference no. 302/2022 For data collection, to Ministry of Education office in Hodeidah governorate; then informed consent was obtained from the study participants (students) before administering the questionnaire.

The permission was taken from the school administration and participant's student.

Data analysis

The data was analyzed by IBM SPSS (version 28). Both descriptive and inferential statistic were used. The result will be shown on data displaying methods, like graphs or tables, Chi-square test was used to evaluate relationship between variables with $P < 0.05$ considered significant in all tests, P -value < 0.001 well best highly significant.

Result

Table (1): Socio-demographic characteristics of study participants.

In table (1): we see that the students in the study are equal in gender (50%), near of two-thirds (61.3%) live in the urban, the most of students (94.5%) are single and more than two fifth (43%) in the third level of secondary school.

Figure (1): Prevalence of smokers among students at secondary school

Show in this figure (1): the most of samples (78.2%) were no-smokers, and the smokers are (21.8%). the female sample the percentage of smokers was (26.8%). While the percentage of was males (16.8%).

Table (2): Residency of smokers among students at secondary school

It is clear from the table (2) that the highest percentage of smokers among secondary school students were from the rural, where their percentage reached 22.3%.

Table (3): Marital Status of smoker among students at secondary school

Table (3) shows that three-quarters (75%) of divorced students are smokers, followed by married students, at 47.9%, and then widowed students.

Table (4): association between socio-demographic and participants' perception about smoking

In the table (4): show that Gender, Smoking Status, and the Presence of Smokers Among Relatives/Friends: There are highly statistically significant differences between gender and whether participants smoke ($p = 0.000$) as well as between gender and having relatives or friends who smoke ($p = 0.000$). This indicates that gender plays a critical role in both smoking behavior and social influences related to smoking.

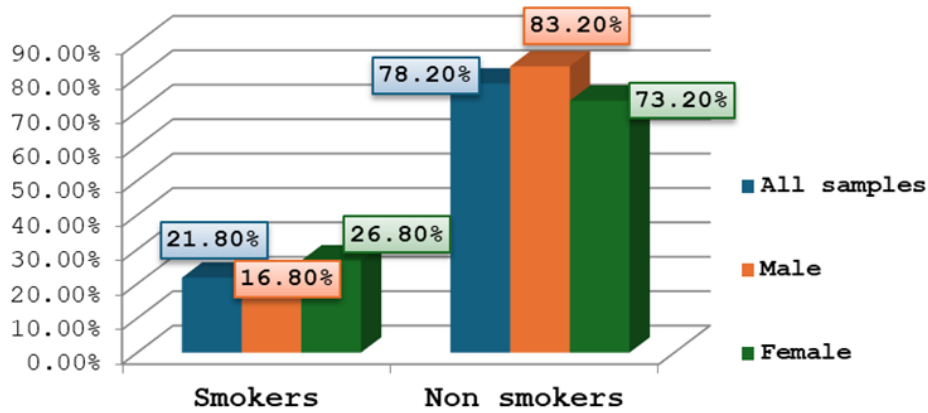
The relationship between gender and the number of cigarettes smoked per day is also highly statistically significant ($p = 0.000$). This indicates that men and women differ in the amount they smoke.

Additionally, the reasons for smoking show significant gender differences ($p = 0.000$), meaning that the motivations or factors driving smoking behaviors vary between men and women.

These highly significant p -values (0.000) suggest that gender is a key demographic factor influencing smoking behaviors, the social environment surrounding smoking, and the reasons behind smoking in this sample.

Table (1): Socio-demographic characteristics of study participants.

Variables		Count	(%)
Gender	Male	500	50 %
	Female	500	50 %
Residency	Rural	389	38.7 %
	Urban	611	61.3%
Marital status	Single	945	94.5%
	Married	48	4.8%
	Divorced	4	0.4%
	Widow	3	0.3%
Occupation	Yes	261	26.1%
	No	739	73.9%
Educational level (Secondary school)	First	280	28.0%
	Second	290	29.0%
	Third	430	43.0%



Figier (1): Prevalence of smokers among students of secondary school

Table (2): Residency of smokers among students of secondary school

Residency	Residency of smokers			
	Smokers		Nonsmokers	
	Count	(%)	Count	(%)
Rural	87	22.3 %	302	77.7 %
Urban	131	21.3%	485	78.7 %

Table (3): Marital Status of smokers among students of secondary school:

Marital status	Marital Status of smokers			
	Smokers		Nonsmokers	
	Count	(%)	Count	(%)
Single	191	20.3%	754	79.7%
Married	23	47.9 %	25	52.1%
Divorced	3	75.0%	1	25.0%
Widow	1	33.3%	2	66.7%

Table (4): association between socio-demographic and participants' perception about smoking

N	participants' perception aboutsmoking	Gender		Residency		Marital Status	
		chi- square	P-value	chi- square	P-value	chi- square	P-value
1.	Are you smoking	15.371	0.000	2.022	0.364	3.553	0.737
2.	Duration of smoking	0.732	.694	9.807	0.007	6.895	0.331
3.	Do you have relative or friends who is smoker	15.372	.000	2.022	.364	3.553	.737
4.	Smoke regularly	5.172	.160	1.372	.712	5.079	.827
5.	Number of cigarettes per day	41.660	.000	20.513	.015	27.610	.031
6.	Reasons of smoking	144.00	.000	10.704	.016	9.719	.285
7.	Addicted to smoking	8.447	.076	1.604	.008	6.068	.640
8.	Smoking is essential to you	.159	.690	.021	.886	2.805	.423
9.	Read about the harms of smoking	3.421	.181	.793	.873	1.401	.966
10.	Has smoking caused health problems or psychological problems to you?	1.752	.466	1.364	.508	3.205	.524
11.	Know that smoking is the main cause of cancer	3.663	.160	5.888	.053	1.814	.936
12.	Trying or wanting to quit smoking	1.880	.002	1.158	.560	1.303	.971
13.	Encouraged someone to quit smoking	4.735	.192	1.280	.734	6.721	.666

Discussion

Every year, over three million individuals worldwide die prematurely due to smoking and tobacco use, with one million of these deaths occurring in developing nations.

In this study, a total of students from both rural and urban areas in Hodeidah governorate, totaling 1,000, were surveyed. Additionally, the prevalence of smoking among these secondary school students was found to be 21.8%. This figure was higher than in Ethiopia (11.1%),^[14] Sudan (13.6%)^[15], Malaysia (10.1%)^[16], China (4.7%)^[17], and lower than in Bangladesh (55%)^[18], Saudi Arabia (36.1%)^[19], Nairobi (32.2%)^[20], Botswana (29%)^[21].

Although no biological markers were used to validate the smoking status reported by the students, the risk of underreporting was reduced by ensuring the confidentiality of the collected information. This confidentiality was maintained by excluding teachers from the interview rooms and allowing only the research team to collect the questionnaires.

The results showed that 38.5% of the students who reported smoking were male, while 61.5% were female. This indicates that the prevalence of smoking among female students at the secondary school level in Hodeidah governorate is significantly higher than among their male counterparts, despite traditional, cultural, and social norms that discourage smoking among women.

This trend may be attributed to the increasing rates of smoking and early initiation of smoking habits among adolescents. The findings of this study align with those of (Mbongwe et al. in 2017)^[21], who reported the highest prevalence among the 18-year-old age group.

The study also revealed that the prevalence of smoking was higher among students in rural areas compared to those in urban areas among secondary school students, a finding that is consistent with the research by (Zeng et al. in 2022)^[17].

The views of participants on smoking in secondary schools; 64.8% of participants mentioned having friends who smoke, aligning with research conducted by (Ilukho et al, 2019)^[22] in Nigeria, which found that students with friends who smoked were

5 times more inclined to smoke compared to those without such friends; Therefore, 10.8% of smokers admitted to smoking in the presence of their friends. 4.5% of participants stated that personal and family issues were the main reasons for starting to smoke.

Conclusion

This study highlights several important findings regarding smoking behavior and perceptions among secondary school students. Gender plays a crucial role in smoking habits, with significant differences in smoking status, the number of cigarettes smoked, and reasons for smoking between males and females. Smoking is also more prevalent among females, a finding that warrants further attention.

Residency influences both the duration of smoking and addiction, with rural students showing higher smoking rates and greater susceptibility to addiction. Marital status, while less significant overall, is a strong factor in specific groups, particularly among divorced and married students.

Overall, these findings suggest that smoking interventions must be tailored to address the unique challenges faced by different demographic groups, with special attention given to gender-specific motivations, the impact of rural residency on smoking habits, and the heightened smoking rates among divorced students. Gender, in particular, stands out as a key determinant of smoking behavior, indicating a need for focused public health strategies that consider the social environment, cultural factors, and individual motivations of both male and female students.

Recommendation

Based on the results, it is suggested that

- Measures to prevent and control tobacco use are necessary and should begin early, ideally at the elementary school level.
- Parents need to be dedicated to putting this all-encompassing policy into action and to keep it going around tobacco control.
- Schools should enhance their anti-smoking initiatives to stop students from smoking.
- It's important to get students involved in these anti-smoking efforts because friends often encourage smoking.

- Religious figures could also be crucial in this effort by offering the right guidance to decrease tobacco use, consumption, and to help people quit smoking.

Acknowledgment: First, I would like to thank the male and female students from secondary schools in Al-Hodeidah Governorate who agreed to participate in this research. I also thank the school managers who allowed us to conduct the research after approval from the Ethics Committee of the Faculty of Medicine and Health Sciences at Al-Hodeidah University. Code no. 302/2022

Disclosure: The authors report there are no conflicts of interest in this work.

Funding: The project was funded by the authors

References

1. Tobacco Fact sheet N°339". May 2014. Retrieved 13 May 2015.
2. Reitsma, Marissa B; Fullman, Nancy; Ng, Marie; Salama, Joseph S; Abajobir, Amanuel (April 2017): "Smoking prevalence and attributable disease burden in 195 countries and territories, 1990–2015: a systematic analysis from the Global Burden of Disease Study 2015". *The Lancet*. 389 (10082): 1885–906. doi:10.1016/S0140-6736(17)30819-X. PMC 5439023. PMID 28390697.
3. H. Wang, L. Fratiglioni, Smoking and Parkinson's and Alzheimer's disease: review of the epidemiological studies, *Behav. Brain Res.* 113 (2000); PP: 117–120.
4. J.A. Cervilla, M. Prince, A. Mann, Smoking drinking, and incident cognitive impairment: a cohort community based study included in the Gospel Oak project, *J. Neurol. Neurosurg. Psychiatry* 68 (2000); PP:622–62
5. Kalmijn, M.P. Van Boxtel, M.W. Verschuren, J. Jolles, L.J. Launer, Cigarette smoking and alcohol consumption in relation to cognitive performance in middle age, *Am. J. Epidemiol.* 156 (2002); PP: 936–94
6. WHO. Profile of Implementation of WHO Framework Convention on Tobacco Control in the Southeast Asia Region. New Delhi: World Health Organization, Southeast Asia Regional office; 2011.
7. World Health Organization. Systematic review of the link between tobacco and poverty, Geneva, 2011.[11] Thakur JS, Garg R, Narain JP, Menabde N. Tobacco Use: A Major Risk Factor for Non-Communicable Diseases in South-East Asia Region. *Indian J Public Health.* 2011;55(3); PP:155-160.
8. World Health Organization website-tobacco Available at 2004 <http://www.who.int/tobacco/about/en/>.
9. World Health Organization. Growing up without tobacco: World No-Tobacco Day 1998. Geneva: World Health Organization;1998.
10. Available at: <http://www.who.int/mediacentre/factsheets/fs345/en/>. Accessed on 3 July 2018.
11. Global Adult Tobacco Survey (GATS) Fact Sheet India: 2009- 2010, Ministry of Health and Family Welfare, Government of India.
12. Available at: WHO Global Tobacco Report 2021
13. P. Ram Manohar, "Smoking and Ayurvedic Medicine in India" in *Smoke*, pp. 68–7
14. Tilahun Ermeko, Abate Lette, Yonas Lamore, Yohannes Kebede. Prevalence of Tobacco Smoking and Associated Factors among High students at Misha District, Southern Ethiopia. *Health Science Journal.*2021.
15. Yousif M G, Adil A M, Babiker M M, A H. Prevalence of smoking among school adolescents in Khartoum State Sudan. *J Paediatr* (2012) 12(2); PP: 44-48
16. Lim Hui Li, Heng Pei Pei, Teh Chien Hue, Kee Chee Cheong, Sumarni Mohd Ghazali, Lim Kuang Hock, Lim Jia Hui, Prevalence of Smoking and Its Associated Risk Factors Among Secondary School Students in Kelantan, Malaysia, *Malaysian Journal of Medicine and Health Sciences.* 16(1), Jan 2020; PP: 44-50
17. (65)- Xinying Zeng; Xinbo Di; Shiwei Liu; Huiyu Xie; Zida Meng; L in Xiao1, Smoking Behavior Among Secondary School Students – China, 2021. *Chinese Center for Disease Control and Prevention CCDC Weekly / Vol. 4 / No. 21*
18. S.M.M. Kamal, M.A. Rahman, M.K. Uddin, M.A. Islam, Smoking Behavior of Secondary School Students in Kushtia District, Bangladesh: Prevalence and Determinants, *Journal of Applied Science and Technology* Vol.7, No.2, December 2010; PP: 107-115
19. Hashim R. Fida, Ismail Abdelmoneim. Prevalence of smoking among male secondary school students in Jeddah, Saudi Arabia, *Journal of Family and Community Medicine | December 2013 | Vol 20 | Issue 3 | 168-172*
20. (61)- D.H.O. Kwamanga, J.A. Odhiambo And E.I. Amukoye, Prevalence And Risk Factors Of Smoking Among Secondary School Students In Nairobi, *East African Medical Journal* Vol. 80 No. 4 April 2003
21. (64)- Bontle Mbongwe, Roy Tapera, Nthabiseng Phaladze, Andrew Lord, Nicola M. Zetola, Predictors of smoking among primary and secondary school students in Botswana. *PLOS ONE.* 2017. <https://doi.org/10.1371/journal.pone.0175640>. 2017
22. Ilukho A. Fidelis1, Itepu Victor E, Keith O. Bramiah3, Enosekhafoh Ben, Prevalence of Tobacco Use Among Secondary School Students In A Rural Community In Southern Nigeria. *Newsletter, 2019, vol.3; PP: 148-163.*

Nurses' Knowledge and Practice Regarding Patient Care Post Cardiac Catheterization at Selected Hospitals in Khartoum State 2023

Mohammed Khalid Hussein Khalid

Assistant professor, Department of nursing, Faculty of Nursing and Health Science Jazan University, Saudi Arabia

How to cite this article: Mohammed Khalid Hussein Khalid. Nurses' Knowledge and Practice Regarding Patient Care Post Cardiac Catheterization at Selected Hospitals in Khartoum State 2023. *International Journal of Nursing Education* / Vol. 17 No. 1, January-March 2025.

Abstract

Background: Cardiac catheterization is diagnostic and therapeutic therapy for cardiac diseases but has potential complications that could affect the life of the concerned patient. These complications need early identification and to prevent issues of inequality with regard to standardized care policies, qualified staff is required.

Objective: The purpose of this study was to evaluate the present knowledge and practice of the nurses in the selected hospitals of Khartoum State regarding the post-cardiac catheterization care in the year 2023. It also aims to establish what affects their knowledge and practice in Cardiac wards and ICUs.

Method: Cross-sectional quantitative study was carried out in Omdurman, Elshab and Ahmed Gasim Hospitals from October 2022 to March 2023. Quantitative data was obtained from a structured questionnaire while the data analysis was made using the Statistical Package for Social Sciences version 26.0.

Results: 17(37.8%) participants had unsatisfactory knowledge and practice, and about 30 (66.7%) were satisfied regarding patient care after cardiac catheterization.

Conclusion: About 35% of participants had low awareness and experience. Nurses' knowledge needs frequent replenishment, and, thus, it is suggested to implement training more often to address the topic of the post-cardiac catheterization care.

Keywords: Cardiac catheterization, nurses, knowledge, practice.

Introduction

Background: Cardiovascular diseases (CVDs) are the major cause of death globally. Approximately 56.4 million deaths were reported worldwide in 2015⁽¹⁾. Out of 56.4 million deaths, 30 million were

due to the top 10 major causes, which also included Ischemic Heart Disease (IHD) and stroke⁽²⁾. The Centers for Disease Control and Prevention's (CDC's) report found that about 80 percent of deaths from coronary artery disease were caused by narrowing of

Corresponding Author: Mohammed Khalid Hussein Khalid, Assistant professor, Department of nursing, Faculty of Nursing and Health Science Jazan University, Saudi Arabia.

E-mail: khalid_hussein77@outlook.com

Submission date: October 21, 2024

Revision date: November 27, 2024

Published date:

This is an Open Access journal, and articles are distributed under a Creative Commons license- CC BY-NC 4.0 DEED. This license permits the use, distribution, and reproduction of the work in any medium, provided that proper citation is given to the original work and its source. It allows for attribution, non-commercial use, and the creation of derivative work.

the arteries, which leads to reduced blood flow to the heart. Preventable factors like obesity, poor physical activity, heavy drinking, eating unhealthy foods, and uncontrolled blood pressure and cholesterol are the main risk factors leading to heart disease (3).

A cardiac patient is a critically ill patient because of a reduced cardiac output, decreased myocardial perfusion, abnormal cardiac rhythm, and severe valvular lesions. This patient requires continuous assessment and intervention to diagnose and manage their complicated medical conditions (4). Cardiac catheterization is a process that is supposed to be the golden standard for diagnosing, evaluating, and treating cardiac diseases. One or more catheters are inserted through a peripheral blood vessel in either the antecubital artery or vein or femoral artery or vein with x-ray guidance (5).

Cardiac catheterization is one of the best approaches to limit atherosclerotic disease progression, prevent or reduce complications, including death, and near-completely eliminate ischemic symptoms to improve quality of life and restore functional capacity (6). Currently, an electrocardiogram (ECG) is normally used as the first tool for the initial screening of cardiovascular disorders and non-invasive diagnosis of life-threatening arrhythmias in clinical practice (7). In critical care settings, ECGs provide nurses with information about the patient's electro cardiac record in a manner that is easy and fast to use. Nurses who care for critically ill patients need to have a thorough understanding of the information provided by the ECG, which includes heart rate, regularity of the rhythm, interval measurements, and characteristics of each waveform of the heart.

To minimize complications, optimizing, monitoring, and caring for post-catheterization patients by expert nurses will be helpful. Well-trained nurses will understand the type of complications that can occur and can have the skill of spotting them. Therefore, the proposed study aims to evaluate the nurses' knowledge and practice in relation to post-cardiac catheterization care in randomly selected hospitals in Khartoum State in the year 2023 limited to nurses working in the Cardiac wards and Intensive care units. It also wants to ascertain the variables regarding their information and implementation within such milieus.

Material and methods

Study design

This descriptive-quantitative hospital-based study was conducted in governmental hospitals in Khartoum state between the periods October 2022 and March 2023

Study setting

The present study was carried out in the catheterization lab, cardiac units, and general ward in Omdurman Hospital, Elshab Hospital, and Ahmed Gasim Hospital

Sample size and sampling technique

Due to the very limited staff in these units, the researcher took a census sampling all nurses staff who work in these hospitals were selected. There were 45 nurses. All nurses work in the catheterization lab, cardiac units, and general ward.

Tools of data collection

The study adopted a self-developed questionnaire to measure the sample's knowledge about care after a procedure called cardiac catheterization. It consisted of two parts: of socio-demographic information (age, gender, education level, nursing experience, experience in cardiac units) and 17 multiple choice questions assessing the knowledge of the participants. This knowledge quiz was 17 items long with one point awarded for each correct answer and a total point range of 0-17 inclusive. Knowledge scores of less than 50% were categorized as poor knowledge, 50-79% as moderate knowledge and 80 and above as good knowledge. The questionnaire and consent form were administration through the Google forms.

Questionnaire for Practice

The section consists of a Likert scale to measure the nurse's practice regarding patient care after cardiac catheterization. The scale consists of 20 items in which responses were answered in a 3-point Likert scale (always, sometimes, and never) and the scores ranged from 0-20). The scores less than (<50%) was considered a poor level of practice and the scores equal (50- < 80%) considered moderate level of practice and the scores equal or more than (\geq 80%) considered as good level of practice

Data analysis procedure

First, the data was collected then cleaned, coded and entered to SPSS version 25.0 for analysis. Descriptive statistics was used to describe frequency and percentages and it was displayed in tables, Measure of (mean) was calculated. Cross tabulation done for association between the independent variables and dependent variables. The independent variables which become fitted equal to p-value of 0.00 was considered as statistically significant.

Ethical consideration

The rights, dignity and privacy of participants got respected throughout this study to practice ethical research. Of note, email was used to seek consent and avoiding coercion, the participants were provided with the purpose and procedures of the research, and their rights including their right to withdraw from the study were disclosed to them. Privacy and participants' identification were ensured by using codes to label the responses and ensuring secure data to avoid the loophole that may allow unauthorized persons to gain access. Since there is no written ethical approval, every precaution to participate in this research was exercised and the study adhered to the principles of ethical research as outlined in the Declaration of Helsinki and other international guidelines. The study was found not to be risky for the participants and all results were analyzed in a neutral and clear manner

Results

All the 45 participants in the study responded to the research questions, hence a 100% response rate, and of which 34 were females (75.6%). About 60 % of the respondents were 25-30 years They were 29 in number majority (64.4%) of whom had a Bachelor's degree in nursing. Out of the participants, 27 percent had worked in cardiac units for 1-5 years, and 48.9% of them worked in the catheterization labs. Half had completed formal training in cardiac catheterization; the other half had not (**Supplementary Table 1**).

The highest correct response rate of 66.7% was associated with local complications such as hematoma while the least of 6.7% was associated with AV fistula after catheterization (Table 1). There were 38 (84.4%) nurses with good knowledge scores, while the rest

7 (15.6%) had moderate knowledge (**Table 1a**).

For practice, 30 of them reported that they always checked the catheter insertion sites for bleeding, only 15 reportedly always assessed patients' food intake before operation and 17 never taught patients about sexual activity after catheterization. Hence, 37 (82.2%) respondents established moderate practice levels of radiation protection measures, whereas eight respondents had good practice (**Table 1b**).

The majority of nurses (66.7%) provided clear descriptions on care procedures after the procedure and assiduously checked for bleeding at the catheter insertion sites; 60% applied manual pressure. Half inaccurately checked urine frequency and restrained patients' arms. In general, 66.7% of respondents described the overall practice as satisfactory with workload as the key hindrance at 44.4 per cent followed by inadequate knowledge at 37.8% (**Table 2a and 2b**).

The mean knowledge score was 2.84 (SD = 0.367) and the mean practice score was 2.18 (SD = 0.387); The p values were finding significant at 0.000 levels which reveals that there were positive association between knowledge and practice (**Table 3**).

Moderate knowledge and practice levels were recorded among the nurses who were aged 21-30 and those who had 1-5 years of working experience. Single Nurses and Nurses with baccalaureate educations also had moderate aggregate knowledge and practice. The above trends were not influenced by attendance of cardiac related training as the majority of the participants demonstrated moderate knowledge and practice (**Table 4**).

Table (1a) Response of Nurses on the Knowledge section on patient's care after cardiac catheterization N=45

Statement	frequency	Percent (%)
What are the local complications occurring in patients after cardiac catheterization?		
Stroke	5	11.1
Hematoma	30	66.7

Continue.....

AV fistula	3	6.7
Thrombus formation	7	15.6
How will you detect pseudo aneurysm after cardiac catheterization?		
Pain at the puncture site	18	40.0
Severe bleeding from the puncture site	12	26.7
Pulsatile swelling and bruit	12	26.7
Fever	3	6.7
When should you check the serum creatinine level of patients after cardiac catheterization?		
Immediately after the procedure	13	28.9
One day after the procedure	17	37.8
One week after the procedure	8	17.8
No need to check	7	15.6
What is the complication of delayed sheath removal?		
Bleeding	25	55.6
Thrombus formation	15	33.3
Air embolism	5	11.1
Development of contrast-induced nephropathy occurs		
One week after the procedure	18	40.0
5days after the procedure	6	13.3
2-3days after the procedure	10	22.2
One the day of procedure	11	24.4
Who is at risk for developing renal failure after cardiac catheterization?		
Young adult	3	6.7
Hypertensive patients	22	48.9
Elderly	15	33.3
Dyslipidemia	5	11.1
For how long the patient's affected extremity should be kept immobilized after cardiac catheterization?		

1-3hour	17	37.8
4-6hours	16	35.6
6-8hour	8	17.8
above 8 hours	4	8.9

Table (1b) Response of Nurses on the Knowledge section on patient's care after cardiac catheterization N=45

Statement	frequency	Percent (%)
Who is at risk for developing pulmonary edema after cardiaccatheterization?		
LV failure	17	37.8
RV failure	8	17.8
AORTIC Regurgitation	7	15.6
Pulmonary AV fistula	13	28.9
When you detect hematoma at the puncture site after cardiac catheterization, you should not.		
Elevate the bruised extremity	14	31.1
apply ice	15	33.3
Lower the bruised limb	4	8.9
Apply pressure bandage	12	26.7
How can we maintain homeostasis after sheath removal?		
Topical application of medicine	5	11.1
Closing the area with suture	6	13.3
Application of plaster	10	22.2
Manual/mechanical compression	24	53.3
What position will you provide for head end of the patient after procedure?		
Elevate30degree.	20	44.4
Elevate 90 degree	5	11.1
Elevate 60 degree.	3	6.7
Flat lying position	17	37.8
What will you assess in the extremity used for access?		
Lesion and swelling	13	28.9

Continue.....

Temperature, color, pulses and discomfort.	19	42.2
Motor and sensory activity	9	20.0
Reflexes and nerve function	4	8.9
What may be the cause for getting renal complication during coronary angiography?		
Injection of dye.	18	40.0
Vascular compromise and poor renal blood supply	16	35.6
Use of premedication	4	8.9
Use of manual compression over the access site.	7	15.6
What will you educate the patient with radial approach at discharge?		
Don't lift anything heavy more than 10 pounds.	27	60.0
Take bed rest for month.	8	17.8
Limit fluid intake	9	20.0
Take liquid diet for one week.	1	2.2

What the patient has to do if the incision bleeds at home?		
Lie down and put pressure on it for 30 minutes & seek medical help	27	60.0
Put bandage and do activity	11	24.4
c) Give compression for 5 minutes		
Give compression for 5 minutes	4	8.9
Clean it and take bed rest	3	6.7
What is hematoma?		
Localized swelling filled with fluid and pus	5	11.1
Presence of tumor inside vascular region	6	13.3
Localized swelling filled with blood	29	64.4
Presence of tumor outside the vascular compartment	5	11.1
Mean knowledge score		
Good knowledge ($\geq 80\%$)	38	84.4
Moderate knowledge (50- < 80%)	7	15.6

Table (2a) Response of Nurses in the practice section on patient care after cardiac catheterization

Statement	Always	Sometimes	Never
Do you Explain the post-procedure care to the patient?	30(66.7%)	12(26.7%)	3(6.7%)
Do you remove the sheath?	17(37.8%)	21(46.7%)	7(15.6%)
Do you apply manual/mechanical compression after sheath removal?	27(60%)	9(20%)	9(20%)
Do you apply manual pressure for 30-45 minutes after sheath removal?	23(51.1%)	14(31.1%)	8(17.8%)
Do you observe the catheter site insertion for bleeding or hematoma?	30(66.7%)	11(24.4%)	4(8.9%)
Do you assess the temperature, pulse and skin color of the extremity used for access?	28(62.2%)	12(26.7%)	5(11.1%)
Do you assess the vital signs for (15-30) minutes for (2) hours initially and less frequently?	28(62.2%)	12(26.7%)	5(11.1%)
Do you monitor the patient by ECG?	31(58.9%)	11(24.4%)	3(6.7%)
Do you place the patient in a supine position a padded table in the room?	22(48.9%)	13(28.9%)	10(22.2%)
Do you encourage patients to increase fluid intake?	25(55.6%)	12(26.7%)	8(17.8%)
Do you observe signs of hypersensitivity to the contrast and other signs?	27(60%)	15(33.3%)	3(6.7%)

Table (2b) Response of Nurses on the practice section on patient's care after cardiac catheterization

Statement	Always	Sometimes	Never
Do you check the patient urine output?	23(51.1%)	18(40%)	4(8.9%)
Do you observe the extremity in which catheter inserted straight for 4-6 hours after procedure ?	23(51.1%)	16(35.6%)	6(13.3%)
Do you immobilize the patient's arm on arm board, if the anti cubital vessels are used?	22(48.9%)	16(35.6%)	7(15.6%)
Do you apply pressure dressing over the insertion site when catheters withdraw?	29(64.4%)	9(20%)	7(15.6%)
Do you apply a firm pressure over the site, if any bleeding occurs?	25(55.6%)	13(28.9%)	7(15.6%)
Do you observe if there are complications after procedure?	29(64.4%)	13(28.9%)	3(6.7%)
Do you assess for bruit in the access area?	24(53.3%)	19(42.2%)	2(4.4%)
Do you educate about sexual activity after procedure?	11(24.4%)	17(37.8%)	17(37.8%)
Do you give instruction to the patient for self management at home, before discharge	29(64.4%)	12(26.7%)	4(8.9%)
How do you rate the overall level of your current practice regarding patient's care after cardiac catheterization?	Frequency		Percent(%)
Very unsatisfactory	11		24.4
Satisfactory	30		66.7
Unsatisfactory	4		8.9
If you are not very satisfied with your practice, what are the reasons?			
I have no sufficient knowledge about patient care after cardiac cauterization	17		37.8
Workload	20		44.4
Insufficient performance monitoring systems related to post cardiac catheterization care	4		8.9
lack of cooperation between teams	4		8.9
Mean practice score	frequency		Percent(%)
Good practice ($\geq 80\%$)	8		17.8
Moderate practice (50- < 80 %)	37		82.2
Poor practice (<50%)	0		0

Table (3) Mean standard deviation and p value for knowledge and practice

Variable	mean	SD	p value
Knowledge	2.84	.367	.000
Practice	2.18	.387	.000

Table (4) Correlation between socio demographic data and knowledge and practice

Variable	Knowledge			Practice		
	Good	moderate	poor	good	moderate	Poor
Age						
21-25	4	14	0	4	14	0
≥ 25-30	3	23	1	4	23	0
Marital status						
Single	4	21	1	4	22	0
Married	3	16	0	4	15	0
Professional qualification						
Diploma	0	3	0	0	3	0
Bsc	5	23	1	6	23	0
Msc	2	11	0	2	11	0
Experience in nursing by years						
1-5	5	20	1	6	20	0
more than 5 years	2	17	0	2	17	0
Experience in cardiac unit						
1-5	5	20	1	5	22	0
more than 5 years	2	17	0	3	15	0
Attended training of nurses related cardiac						0
Yes	4	19	1	4	18	0
No	3	18	0	4	19	0

Discussions

This descriptive, exploratory cross-sectional hospital/two study aimed to evaluate the nurse's knowledge and practice about post-cardiac catheterization care at the selected hospitals in Khartoum State. The majority (84.4%) of the participants had good knowledge as compared to the 15.6% participants who have moderate knowledge. Substantial results of our study are in line with a study conducted at Port Said Egypt where nurses' knowledge on post-cardiac catheterization care was 52% acceptable levels⁽⁸⁾. However, it is inconsistent with Thabet et al., in Egypt only 13% had the sufficient knowledge about them or none at all 87%⁽⁹⁾. This variation may be caused by differences in methods of assessment and training and or the education levels of trainees.

Our findings are in concordance with a study conducted in Ethiopia where 67.5% of the nurses had adequate practice; similar to Bakr A et al. where 62% of the nurses demonstrated satisfactory practice⁽¹⁰⁾. Although other areas were scored fairly well, patient education and protocol implementation were the lowest, indicating that further more strict protocols should be developed and patients and the general public educated more on the issue⁽¹¹⁾.

A third of the nurses had received specific training in cardiac catheterization procedure while in Egypt, three-fourths of the nurses said the same. Education of caregivers therefore has to be undertaken frequently to enhance care and outcome⁽¹²⁾. This cross-sectional study also established a similar statistically significant relationship of BSc qualification, training in PCa catheterization and satisfactory knowledge as proposed earlier in Pakistan. and Nurses with satisfactory knowledge were 2.2 times more likely

to have satisfactory practice⁽¹⁰⁾. Work experience of more than 5 years was also other predictor that had significant positive correlation with practice level^(10, 13). Again, like in Egypt factors like knowledge deficit, consultant's heavy workload, and absence of monitoring of performance tainted practice⁽¹⁴⁾.

Limitation

There were some limitations which the study encountered: The sample of the study was restricted to some selected hospitals in Khartoum State; hence the study was not generalized. However, being cross-sectional it does not allow for the study of changes over time, which may be an important factor. Further, the use of questionnaires allows only the participants' own evaluation of their knowledge and practices, which can be quite misleading. There is no pilot study done, which could threaten the validity of the questionnaire. Education and training of participants also gave variability that may cause confounding affects when comparing results. The study did not capture actual care delivery and could not provide detailed information on overall quality of clinical care; it did not reflect on potential extrinsic modulating factors that routinely impinge on practice such as workload and resource access. These measurement limitations indicate that more extensive, various, ordinary, and pilot studies should be chosen to boost the results' strength in the subsequent studies.

Conclusion and Recommendation

The study revealed that more than one-third of the participants do not have satisfactory knowledge. Therefore, there is a need to design and implement knowledge-increasing training on patient care after cardiac catheterization.

Hospitals should annually give further training to nurses to enhance their knowledge of the care of patients after cardiac catheterization. They should also encourage and help nurses to attend national and international conferences, workshops, and training courses affiliated with the Ministry of Health related to nursing care for patients undergoing cardiac catheterization.

Declarations and statements

Funding: This research received no specific grant from public, commercial, or not-for-profit funding agencies.

Ethical Approval: Not applicable

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

References

1. WHO. .Cardiac Diseases in Pakistan 2014 [Available from: <http://www.shifa.com.pk/chronic-disease-pakistan/>].
2. Roth GA, Johnson C, Abajobir A, Abd-Allah F, Abera SF, Abyu G, et al. Global, regional, and national burden of cardiovascular diseases for 10 causes, 1990 to 2015. *Journal of the American college of cardiology*. 2017;70(1):1-25.
3. CDC. CDC: 200,000 heart disease deaths could be prevented each year. 2013.
4. Cook DJ, Webb S, Proudfoot A. Assessment and management of cardiovascular disease in the intensive care unit. *Heart*. 2022;108(5):397-405.
5. Mani BC, Chaudhari SS. Right Heart Cardiac Catheterization. *StatPearls* [Internet]: StatPearls Publishing; 2023.
6. Dababneh E, Goldstein S. Chronic ischemic heart disease selection of treatment modality. 2018.
7. Martis RJ, Acharya UR, Adeli H. Current methods in electrocardiogram characterization. *Computers in biology and medicine*. 2014;48:133-49.
8. Bakr A, Shehab MS, El-Zayat RN. ASSESSMENT OF NURSES' PERFORMANCE REGARDING CARE OF PATIENTS UNDERGOING CARDIAC CATHETERIZATION. *Port Said Scientific Journal of Nursing*. 2020;7(2):57-77.
9. Taha E. Critical care nurses' knowledge and practice regarding administration of total parenteral nutrition at critical care areas in Egypt. *Critical Care*. 2014;4(13).
10. Ababa A. Federal Democratic Republic of Ethiopia central statistical agency population projection of Ethiopia for all regions at Wereda level from 2014-2017. Addis Ababa: Central Statistical Agency. 2014.
11. Thabet OF, Ghanem HM, Ahmed AA, Abd-ElMouhsen SA. Assessment of Nurse's knowledge and practice for patients undergoing Cardiac Catheterization. *Assiut Scientific Nursing Journal*. 2019;7(17):95-101.
12. Mutlu EY, Senturan L. Effects of hickman catheter care training on practices of nurses. *International Journal of Caring Sciences*. 2017;10(3):1633-42.
13. Arathy S. A study to assess the knowledge and practices among cardiac nurses about patients safety after cardiac catheterisation. 2011.
14. Dubey L, Sharma S. Cardiac catheterization and complications: initial experience. *Journal of College of Medical Sciences-Nepal*. 2012;8(2):1-6.

Gap between Theory and Practice in the Nursing Education: Perception among College of Nursing Students in Kuwait

Delles Helen Emmanuel¹, Chitra Vellolikalam²,
Abeer William Aziz Saad³, Marzieh Hosseini⁴

¹Trainer Specialist "C", College of nursing, PAAET, Kuwait, ²Faculty, College of Nursing, PAAET, Kuwait, ³Assistant Professor of Medical Surgical Nursing, Ain shams University, Egypt, ⁴Trainer "A", College of Nursing, PAAET, Kuwait

How to cite this article: Delles Helen Emmanuel, Chitra Vellolikalam, Abeer William Aziz Saad. Gap between Theory and Practice in the Nursing Education: Perception among College of Nursing Students in Kuwait. International Journal of Nursing Education / Vol. 17 No. 1, January-March 2025.

Abstract

Nursing education typically includes instruction in both theoretical and practical aspects of nursing, integrating classroom learning with clinical practice. The most common reasons included that the theory was about building a knowledge base while practice was about learning nursing skills. The success of an education program requires examining the extent to which the knowledge has been efficiently used in the work place to raise the quality of work performance and checking the extent to which one feels that his or her performance has improved; these factors are affected by the amount of learning transfer. This descriptive design was used to study to identify the gap between theory and practice of nursing students at the college of Nursing (PAAET), Kuwait. Totally 83 female students and 59 male students participated in this study. The study results found that, the responds of students in theory, practice and learning experience for all statements are not equally distributed. The p value corresponding to the demographic variable Gender is less than 0.05 and is significant at 5% level and hence there is significant difference between the mean theory scores of male and female students. The researchers concluded that, theory and practice gap was proven among nursing students.

Key words: Nursing education, Practice, Gap, Perception

Introduction

Nursing education encompasses the formal learning and training provided to individuals to prepare them for roles as professional nurses. The most common reasons included that the theory was about building a knowledge base while practice was

about learning nursing skills.¹ Theoretical aspects is rendered in the classroom, which provides a platform for nursing students to understand the nursing history, professionalism, the human body, diseases, and the nursing procedures. Clinical learning, on the other hand, aims to improve the clinical skills and attributes of nursing.

Corresponding Author: Delles Helen Emmanuel, Trainer Specialist "C", College of nursing, PAAET, Kuwait.

E-mail: dh.emmanuel@paaet.edu.kw

Submission date: Jul 29, 2024

Revision date: Oct 16, 2024

Published date:

This is an Open Access journal, and articles are distributed under a Creative Commons license- CC BY-NC 4.0 DEED. This license permits the use, distribution, and reproduction of the work in any medium, provided that proper citation is given to the original work and its source. It allows for attribution, non-commercial use, and the creation of derivative work.

The nursing curriculum emphasizes performance-based learning. Research into the effective application of knowledge, skills, and attitudes acquired in nursing college to clinical practice is warranted, particularly regarding challenging areas for graduates to adapt to. A clinical learning environment offers nursing students the opportunity to apply theory into practice.² Nursing education equips students with knowledge, skills, and behaviors to meet evolving healthcare needs, drive quality improvement, handle complex care, and adapt to future challenges in health care.³

The theory-practice gap is defined as the disparity between what students learn through theoretical classroom lectures and what they encounter in the clinical setting.⁴ The biggest challenge facing nursing as an academic field is the theory-practice gap, which is a universal issue in nursing.⁵ It continues to be a critical issue affecting the preparation and competence of nursing student.⁶ The gap phenomenon is evident, highlighting both strengths and areas for improvement.⁷ The theory-practice gap in emergency nursing education is shaped by factors such as student characteristics, instructor dynamics, environmental factors, cultural influences, and organizational processes, all of which collectively impact the quality-of-care services^{8,9}.

The foundation of effective nursing lies in the nursing education program and the training of nurses to develop strong nursing skills.¹⁰ The new graduate nurse must feel confident and well-prepared to effectively fulfill her role in a transformative healthcare environment.¹¹ Competency-based education (CBE) provides avenues to boost inter professional education, expand the utilization of simulation, and enhance clinical judgment.² The gap in nursing education centers around the necessity for objective measures to assess the effectiveness of high-fidelity simulation experiences in comparison to traditional clinical experiences for nursing students.¹² The use of more simulation or simple role play would tie together the theory to practice issues more effectively¹³.

Nurse educators are instrumental in diminishing the theory-practice gap by guiding students in the application of theoretical knowledge to practical situations, effectively bridging theory with practice¹⁴.

Aligning theoretical nursing approaches with clinical practices and cultivating a more innovative clinical environment can enhance learning for both instructors and students.¹⁵ The requirements and standards for nursing education varies across to meet the demand for skilled nurses¹⁶. The success of an education program requires examining the extent to which the knowledge has been efficiently used in the work place to raise the quality of work performance and checking the extent to which one feels that his or her performance has improved.

Materials and Methods

Research questions

1. What is the nature of current nursing education at the College of Nursing as theory, learning and practicing skills?
2. What is the perception of the students about the theory, learning and practice at the con, Kuwait?
3. What is the gap between the theory and nursing practice at the CON students?

Study design

A descriptive design was used to study to identify the gap between theory and practice of nursing students at the college of Nursing (PAAET), Kuwait.

Sampling

This study was conducted at the College of Nursing-Kuwait, which has the distinction of being the only educational facility in the country which offers an Associate Degree of Nursing (ADN) and Bachelor of Science in Nursing (BSN) degrees. The ADN program consists of five academic semesters. They are from different nationalities. 80% of the college population come from ADN program and 20% of students from BSN program. Therefore, researcher have excluded the BSN program from this study.

The study was conducted at the first semester of 2019-2020 academic year. Totally 83 students participated. Only the advanced group to focus and evaluate the gap between theory and practice in this study.

Tools used

Data was gathered through two main tools:

- A. The first tool was developed by researchers, and included variables related to the student's socio-demographic data (sex, age, social status, level of education, if work or no and number of years of study in the college).
- B. The second tool was adopted from Safina et al. (2015) & Mahmoud (2014). It is by English language translation and back translation done to be in Arabic language to be sure the understanding the questions by students and some modifications done by researchers. This tool included four axes:
 - a. learning experience-11 statements
 - b. Practice-15 statements,
 - c. Theory-7 statements,
 - d. Gap between theory and practice-15 statements.

This tool was based on the Likert scale (strongly agree, agree, neutral, disagree, strongly disagree), which awarded five degrees to the answer 'strongly agree', four degrees to 'agree', while the answer 'neutral' was granted three degrees, the answer 'disagree' two degrees, and finally 'strongly disagree' one degree.

Pilot Study

A pilot study was conducted among 5% of the main study sample to test the clarity and validity of the study tools, and members involved in the pilot study were excluded from the study samples.

Ethical consideration

Ethical approval for the research study was successfully obtained from the authorized personnel, PAAET, Kuwait on 12/09/2019. Also, all the participants gave a signed written informed consent to participate in the study before answering the questionnaire. Moreover, they were informed that the results would be published anonymously.

Data Collection Method

Once permission was taken from the authorized person and the subject signed the consent form to participate in the study, Data was obtained from 83 female and 59 male level 3,4and 5 students of the Associate Degree of Nursing Program at the College of Nursing. They enrolled during the first semester of 2019-2020. The questionnaires were administered in the classroom setting under the investigator's supervision. The average time taken to fill all the tools were three weeks, from 1st November to 21 November 2019.

Results

The results of this study are divided into three sections.

Table 1. Distribution of gender of the study subjects (n=142)

S. No.	Demographic Variable	Class	No. of respondents	Percentage
1	Gender	Male	59	41.5%
		Female	83	58.5%
2	Age (in years)	20-25	134	94.4%
		26-30	6	4.2%
		31-40	2	1.4%
3	Marital Status	Single	129	90.8%
		Married	11	7.7%
		Divorce/widow	2	1.4%
4	Educational Level	Finished high school	139	97.9%
		intermediate education/ nursing institute	3	2.1%
5	Job status	Yes	19	13.4%
		No	123	86.6%
6	Disease	Yes	7	4.9%
		No	135	95.1%

Table 1 shows that the majority (58.5%) of the subjects were male and 41.5 % of the subjects were female. Mostly 94.4% of the samples were aged from 20 to 25 years, regarding marital status 90.8% of them were single. The results shows that, vast majority (97.9%) of the total study samples finished high school and 86.6% of the total study samples were

employed currently. About presence of disease vast majority (95.1%) of them had no disease.

Section 1: “What is the nature of nursing education at the College of Nursing as theory, learning and practicing skills?”

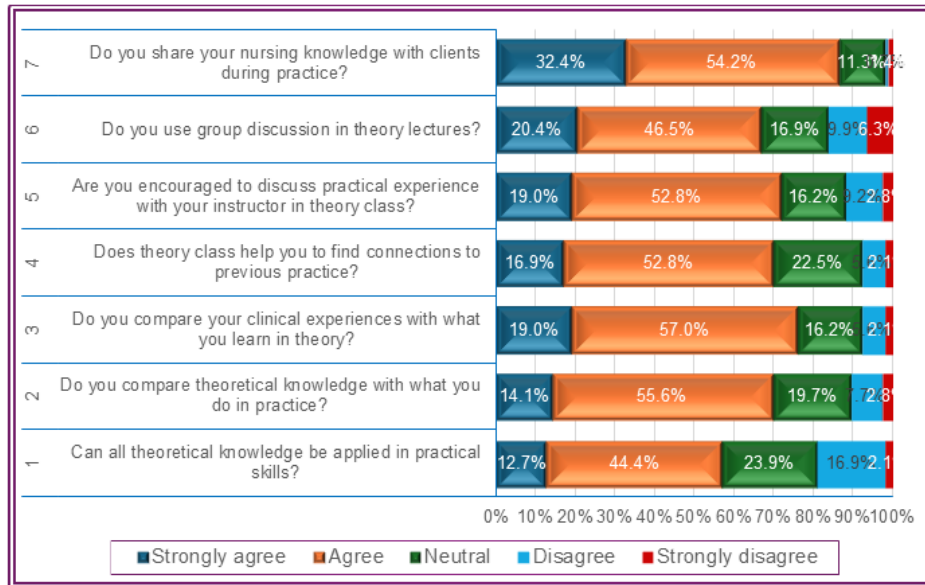


Figure 1. Testing whether the responds for the statements of “Theory” are equally distributed or not

From the above figure 1, the p values corresponding to the statements are less than 0.01 and are highly significant at 1% level and hence the

researcher can say that the responds of students for all statements are not equally distributed.

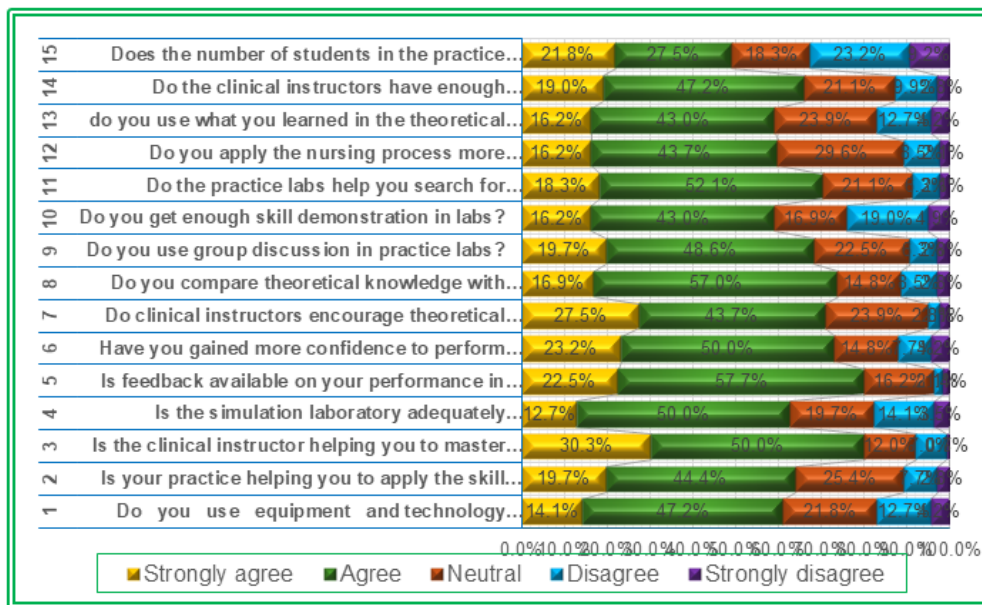


Figure 2. Testing whether the responds for the statements of “Practice” are equally distributed or not

From the above figure 2, the p values corresponding to the statements are less than 0.01 and are highly significant at 1% level and hence the

researcher can say that the responds of students for all statements are not equally distributed.

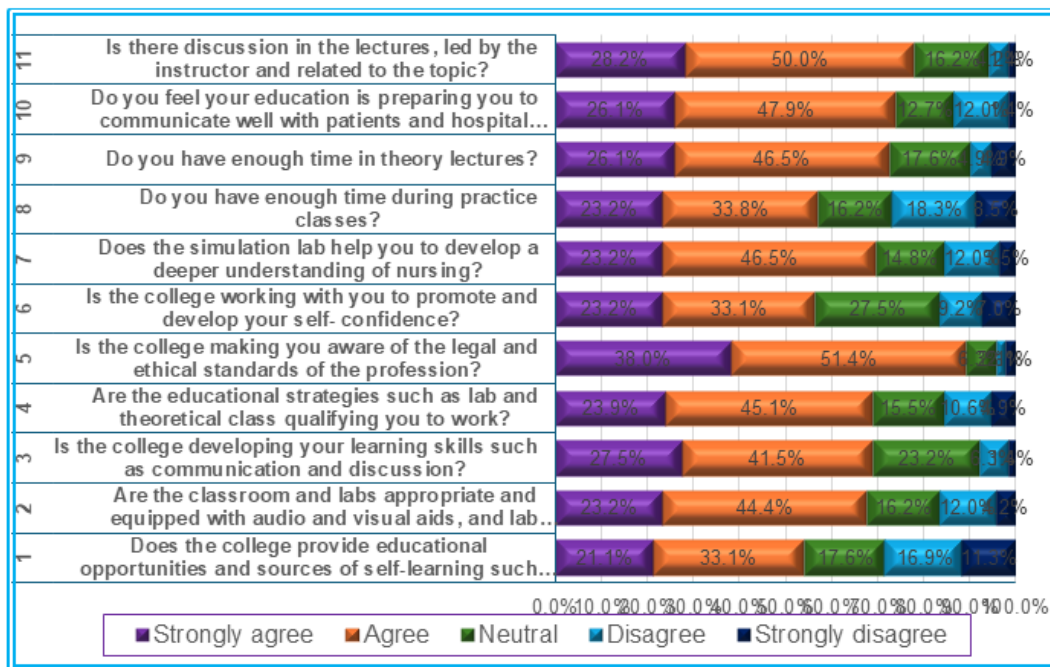


Figure 3. Testing whether the responds for the statements of “Learning experience” are equally distributed or not

From the above figure 3, the p values corresponding to the statements are less than 0.01 and are highly significant at 1% level and hence the researcher can say that the responds of students for all statements are not equally distributed.

Section 2: The second question is “What is the perception of the students about the theory , learning and practice at the CON, Kuwait?”

Table 2. Testing whether the responds for the statements of “Gap between theory and practice” are equally distributed or not.

S. No.	Statement	Number and percentage of students responded as					Mean	SD	Chi-Square	P value
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree				
1	Is there any relation between what you take in theory class and practice class?	31	88	15	6	2	2.01	0.79	173.85	0.000**
		21.8%	62.0%	10.6%	4.2%	1.4%				
2	Is there gap between the theoretical knowledge and clinical procedures in the wards?	28	47	37	28	2	2.50	1.06	39.34	0.000**
		19.7%	33.1%	26.1%	19.7%	1.4%				

Continue.....

3	Is there a gap between theoretical knowledge and practical skills?	18	48	37	34	5	2.72	1.07	40.32	0.000**
		12.7%	33.8%	26.1%	23.9%	3.5%				
4	Do you feel the simulation lab reflects real life in the clinic?	11	52	33	28	18	2.93	1.18	34.83	0.000**
		7.7%	36.6%	23.2%	19.7%	12.7%				
5	Do you feel the simulation lab helps you to link theoretical learning with practice?	20	74	34	9	5	2.33	0.92	109.34	0.000**
		14.1%	52.1%	23.9%	6.3%	3.5%				
6	Do discussions with the nurse educator help you find connections to previous practical experiences?	27	86	22	4	3	2.08	0.80	162.01	0.000**
		19.0%	60.6%	15.5%	2.8%	2.1%				
7	Have you learned many things in theory class with no chance to practice it in class or real situations?	35	62	28	8	9	2.25	1.09	69.20	0.000**
		24.6%	43.7%	19.7%	5.6%	6.3%				
8	Are you confused between what you learned in practice lab and at hospital?	22	41	30	34	15	2.85	1.25	14.55	0.006**
		15.5%	28.9%	21.1%	23.9%	10.6%				
9	Do you feel you cannot apply what you learn in theoretical class in clinic and practice?	23	39	27	37	16	2.89	1.28	13.07	0.011**
		16.2%	27.5%	19.0%	26.1%	11.3%				
10	Do you feel there is a difference between theory and practical class, and real clinical situations?	32	49	23	25	13	2.56	1.27	25.18	0.000**
		22.5%	34.5%	16.2%	17.6%	9.2%				
11	Is there a lack of communication between theoretical and practical teacher?	10	24	42	51	15	3.26	1.08	43.42	0.000**
		7.0%	16.9%	29.6%	35.9%	10.6%				
12	Do teachers and instructors not consider differences between students?	22	37	35	32	16	2.88	1.25	11.45	0.022**
		15.5%	26.1%	24.6%	22.5%	11.3%				

Continue.....

13	When you practice in the ward do you feel that we do not apply all that we learn in theoretical class?	25	54	36	20	7	2.51	1.09	44.13	0.000**
		17.6%	38.0%	25.4%	14.1%	4.9%				
14	Does your clinical instructor have poor communication with you when you practice in hospital?	11	29	29	48	25	3.33	1.21	24.62	0.000**
		7.7%	20.4%	20.4%	33.8%	17.6%				
15	Does the training in practice class continue what you had already learned in theoretical class?	20	69	35	12	6	2.40	0.98	89.20	0.000**
		14.1%	48.6%	24.6%	8.5%	4.2%				

From the above table 2, the p values corresponding to the statements are less than 0.01 and are highly significant at 1% level and hence the researcher can say that the responds of students for all statements are not equally distributed.

Section 3. "What is the gap between the theory and nursing practice at the CON students?"

The demographic variable gender was associated with the Theory and learning experience among the samples at the p level less than 0.05 each. The mean values also high among the female gender. Hence, the female students have got sufficient knowledge in "Theory" and Learning experience" than the male

students. In assessing no demographic variables significant with learning experience.

The results of this study similar to a descriptive study results as majority of nursing students (88.5%) had inadequate supervision from clinical preceptors, insufficiently prepared simulation laboratory (100%) and only 50.8% of them had opportunity to practice skills during simulation sessions. Majority (67.2%) showed that summative assessment conducted at the end of the course, but they not prepared for examination (57.4%).The gap between the theoretical knowledge and the actual clinical procedures in the wards perceived by respondents (54.1%)¹⁷.

Table 3. Comparison of scores of "Gap between Theory and Practice" with respect to the various classes of demographic variables of nursing students.

S. No.	Demographic Variable	Class	N	Mean	SD	F/T value	P Value
1	Gender	Male	59	41.41	7.648	2.929	0.004**
		Female	83	38.17	5.532		
2	Age (in years)	20-25	134	39.55	6.509	0.486	0.616
		26-30	6	40.17	10.342		
		31-40	2	35.00	7.071		
3	Marital Status	Single	129	39.46	6.506	0.055	0.946
		Married	11	40.00	8.944		
		Divorce/widow	2	40.50	6.364		
4	Educational Level	Finished high school	139	39.51	6.538	-0.040	0.968
		intermediate education/ nursing institute	3	39.67	13.503		

Continue.....

5	Job status	Yes	19	40.37	6.978	0.599	0.550
		No	123	39.38	6.635		
6	Disease	Yes	7	43.00	8.832	1.424	0.157
		No	135	39.33	6.525		

** - Significant at 1% level * - Significant at 5% level

In the above table 3, the p value corresponding to "Gender" is less than 0.01 and is highly significant. Hence, the female students have thought the "Gap between the Theory and Practice" is lesser than the male students that have thought. While the p values corresponding to the all other demographic variables are not significant and there is no significant mean difference.

A qualitative study exhibits the similar results by five themes which were: system inadequacies; resource constraints; challenges of the clinical learning environment; clinical placement and supervision; and nurse faculty factors. Systems inadequacy and resource constraints formed the spine of the challenges contributing to the theory-practice gap in the research setting¹⁸. A study explored the solutions to bridge the theory-practice gap in nursing education in the UAE. The study has implications for nursing education and practice within the UAE and is imperative for graduating workplace ready professional nurses within the country¹⁹.

Conclusion

The researchers found the exact gap between the theory and practice of nursing students in CON, Kuwait. It is also statistically proven that, gender has the major role in theory, practice and learning skills and gap between teaching and practice. The teaching institutions must prepare to fill the gap and gender-based attention required for that. The further research is recommended to understand the perception of the male and female students need to be studied to achieve the successful elimination of gap between theory and practice.

Conflict of interest: Nil

Source of Funding: Self

References (Vancouver Style)

- Ahmad S, Mohannad E, Rami M. Theory practice gap in nursing education: a qualitative perspective. *Journal of Social Sciences*. 2015;11(1):20-26. doi:10.3844/jssp.2015.20.29
- Lila, L., Bennett. The Gap between Nursing Education and Clinical Skills: Are New Graduate Nurses Ready for the Workplace?. (2017).
- Karabulut N. Addressing the theory-practice gap in nursing education. *J Nurs Educ Pract*. 2023;14(3):45-52. doi:10.5430/jnep.v14n3p45
- Olfat, A., Salem, Ahmad, E., Aboshaiqah, Murad, A., Mubarak, Isabelita, N., Pandaan. Competency Based Nursing Curriculum: Establishing the Standards for Nursing Competencies in Higher Education. *Open Access Library Journal*, (2018);05(11):1-8. doi: 10.4236/OALIB.1104952
- Potter PA, Perry AG, Stockert P, Hall A. *Essentials of Nursing Practice*. 9th ed. St. Louis: Elsevier; 2020. p. 45.
- Shima, Safazadeh, Alireza, Irajpour, Nasrollah, Alimohammadi, Fariba, Haghani. Exploring the reasons for theory-practice gap in emergency nursing education: A qualitative research. *Journal of education and health promotion*, (2018);7(1):132-132. doi: 10.4103/JEHP.JEHP_25_18
- Mohamed, Toufic, El, Hussein, Joseph, Osuji. Bridging the theory-practice dichotomy in nursing: The role of nurse educators. *Journal of Nursing Education and Practice*, (2016);7(3):20-. doi: 10.5430/JNEP.V7N3P20
- Yasser, El, Miedany. The Art of Teaching Nurses. (2019).131-154. doi: 10.1007/978-3-319-98213-7_9
- Caranto, L. C. (2015). The Real World: Lived Experiences of Student Nurses during Clinical Practice. *International Journal of Nursing Science*.
- Nursing Education Practice Update 2022: Competency-Based Education in Nursing (sagepub.com)
- Doe J, Smith A. Bridging the theory-practice gap in nursing education. *J Nurs Educ Pract*. 2023;14(3):45-52. doi:10.5430/jnep.v14n3p45
- Saifan AR, Safieh H. Bridging the theory-practice gap in nursing education: A review of the literature. *Nurse Educ Pract*. 2015;15(6) doi:10.1016/j.nepr.2015.09.001

13. Albougami, A. S., Al-Surimi, K. M., & AlAhmary, K. M. (2015). The importance of nursing competencies in the Saudi health system. *Journal of Nursing Education and Practice*, 5(12), 134-140. <https://doi.org/10.5430/jnep.v5n12p134>
14. Abu, Salah, Akram. Gap between Theory and Practice in the Nursing Education: the Role of Clinical Setting. (2018).;7(2) doi: 10.19080/JOJNHC.2018.07.555707
15. C.L., Huston., Beth, Cusatis, Phillips., P., Jeffries., Catherine, Toderro, J., Rich., P., Knecht., S., Sommer., M.P., Lewis. The academic-practice gap: Strategies for an enduring problem. *Nursing Forum*, (2018).;53(1):27-34. doi: 10.1111/NUF.12216
16. Eileen, Deges, Curl., Sheila, K., Smith., Le, Ann, Chisholm., Leah, Anne, McGee., Kumar, Das. Effectiveness of Integrated Simulation and Clinical Experiences Compared to Traditional Clinical Experiences for Nursing Students. *Nursing education perspectives*, (2016).;37(2):72-77.
17. Manal, & Mahmoud, Manal. (2017). Practical learning and theory-practice gap as perceived by nursing students.
18. Salifu, D. A., Gross, J., Salifu, M. A., & Ninnoni, J. P. (2018). Experiences and perceptions of the theory-practice gap in nursing in a resource-constrained setting: A qualitative description study. *Nursing open*, 6(1), 72-83.
19. Saifan, A., Devadas, B., Daradkeh, F. et al. Solutions to bridge the theory-practice gap in nursing education in the UAE: a qualitative study. *BMC Med Educ* 21, 490 (2021).

Facilitating Nursing Students' Clinical Education Continuity Utilizing Collaborative Critical Friendship Approach: A Quasi-Experimental Study

Siham M. Al-Momani¹, Yahya W. Najjar², Maissa' T. Shawagfeh¹, Alaa A. Bsool³,
Abeer A. AL-Zayyat³, Maha D. Hdaib³, Munadel R. Al-Khatib³, Ayat Da'seh³

¹Associate Professor, ²Assistant Professor, ³Lecturer, Department of Allied Medical Sciences, Al-Balqa Applied University, Zarqa University College.

How to cite this article: Siham M. Al-Momani, Yahya W. Najjar, Maissa' T. Shawagfeh et. al. Facilitating Nursing Students' Clinical Education Continuity Utilizing Collaborative Critical Friendship Approach: A Quasi-Experimental Study. *International Journal of Nursing Education* / Vol. 17 No. 1, January-March 2025.

Abstract

Background: Persisted clinical changes in response to COVID-19 obliged nursing education faculties to search for the best quality approaches in clinical nursing education. The critical friendship approach is utilized as a mutual peer learning approach aimed to help the nursing students who participated in the study to adequately achieve their curriculum objectives, and meet the policies and procedures inflected in clinical education without any additional staff, time, or cost. This study aimed to evaluate the potential of a new mutual peer learning clinical teaching-learning approach "critical friendship" approach.

Methods: the study design was a quasi-posttest-only static-group design, and conducted in dedicated education units - Acute care units in two dedicated education practice placements, four units in each practice placement with 32-bed inpatient. First and second years of associate degree nursing students participated in this study. An innominate self-administered questionnaire was used to collect the data.

Results: The senior and junior students positively evaluated their experiences in participation in the piloted approach. Furthermore, implementing the piloted approach did not affect the policies and procedures of clinical education and the clinical training passed as it was supposed to be without any additional staff, time, or cost. The critical friendship approach made nursing students more self-confident, safe, relaxed, and more committed to the nursing code of ethics with a strong emphasis on privacy to self and others during clinical training.

Conclusion: It is essential to be actively engaged in such learning methodologies as the critical friendship approach. To form a higher quality and safer learning environment, further planning based on appropriate systematic evaluation, using larger groups of students and educators, the effect of the critical friendship approach on patient satisfaction and students' learning outcomes is recommended.

Keywords: clinical nursing education; dedicated education unit; undergraduate associate degree nursing program; critical friendship; senior students; junior students.

Corresponding Author: Yahya W. Najjar, Assistant Professor, Department of Allied Medical Sciences, Al-Balqa Applied University, Zarqa University College.

E-mail: yahya84@bau.edu.jo

Submission date: November 16, 2024

Revision date: December 20, 2024

Published date:

This is an Open Access journal, and articles are distributed under a Creative Commons license- CC BY-NC 4.0 DEED. This license permits the use, distribution, and reproduction of the work in any medium, provided that proper citation is given to the original work and its source. It allows for attribution, non-commercial use, and the creation of derivative work.

Introduction

In the World Health Organization ¹, a report listed that (59%) of health professionals in the global workforce are nurses. Also, an international survey carried out by the International Council of Nurses ² where more than 130 nursing associations were involved, reported increasing numbers of applications to nursing schools. The widespread educational disruption and delays in nursing student graduation have been discussed by Weberg et al., ³ as one of the issues in nursing.

The importance of implementing appropriate nursing skills and taking care of nurses' attitudes and patient safety was highlighted by Lira ⁴. Also, the unexpected changes in nursing education created challenges and increased the need to develop new approaches in nursing education was emphasized by Tolyat et al. ⁵. Dewart et al. ⁶ announced the importance of the nurse educators' role in making difficult judgments toward the development and improvement of clinical nursing education and quickly addressing the holes in the clinical practicum which include patient safety, insufficient clinical area space, and student overcrowding. Frenk et al. ⁷ concluded that our ability to overcome the persistent challenges of the COVID-19 pandemic is dependent on how quickly society can implement successful strategies for education and health ⁷. The important role of nurse educators in adopting appropriate measures to promote desirable and effective training to face the requirements of existing and upcoming nursing students to foster future nurses and their affiliated organizations has been discussed by Jackson et al. ⁸, and Morin ⁹.

Stress experienced by nursing students in their first admission to practice in the clinical area, and the role of faculties as peer support groups in reducing the students' stress through emotional and psychological support provided by their senior colleagues had been recommended by Al-Momani and Abdu ¹⁰. The need to act quickly to implement alternative teaching and learning strategies to maintain academic continuity to face the challenges of COVID-19 had been recommended by Rasiah et al.¹¹. Grafton et al. ¹² emphasized the importance of innovative adaptable teaching-learning strategies to maintain academic continuity. Regardless of the expected role of nurse

educators in developing approaches or models for maintaining nursing clinical education, Ghasemi et al., ¹³ claimed that little is known about the methods of promoting academic engagement in clinical activities, and highlighted the need to increase academic involvement of nursing students in clinical education, and they recommended for the researchers in the field of nursing clinical education to design and evaluate innovative strategies for the continuity and improvement of academic involvement in clinical settings. This directed us to initiate the piloted critical friendship approach presented in this study.

Costa and Kallick ¹⁴ set critical friends within a paradigm where learning occurs via regular dialogue and regular feedback trust and defined a critical friend as "a trusted person who asks provocative questions, provides data to be examined through another lens, offers critiques of a person's work as a friend, takes the time to fully understand the context of the work presented and the outcomes that the person or group is working toward". Swaffield ¹⁵ recognized that critical friendship, as a supportive, challenging relationship between professionals, is being used in professional development. In nursing education, critical friendship has been recommended as a strategy to enhance the development of self-confidence and facilitate a practice that acknowledges the importance of varied contexts and diverse perspectives ^{16,17}. Based on the above benefits of the critical friendship approach, it was chosen to be our research topic over other peer learning methods. Our study is based on experiential learning theory ¹⁸, which claims that the experience is at the center of the learning process. Adult nursing students can acquire new competencies and retain and apply their knowledge by "learn by doing" approach which consists of 4 distinct stages for learning: concrete experience, reflective observation, abstract conceptualization, and active experimentation.

Background

All associate degree nursing programs in Jordan have one pathway under the campus of Al-Balqa Applied University: 72 credit hours curriculum, 60% of which are clinical courses provided over an average of 2 years. The graduate of the associate degree nursing program is supposed to pass a

comprehensive theoretical and clinical exam to be registered as an associate degree nurse.

In a systematic review carried out by Markowski et al.¹⁹ entitled *Peer Learning and Collaborative Placement Models*, the results of the review demonstrated clear evidence for the benefits of peer learning during practice settings in health care, but the researchers announced the need to conduct more studies to evaluate the benefits and challenges of clinical models or approaches¹⁹. The obligatory regulations raised with COVID-19 which include decreasing the number of admitted patients to hospitals as well as decreasing the allotted number of nursing students in the clinical ward raised challenges for nursing education institutions. Also, to assure the provision of clinical education to undergraduate associate nursing students as required by their curriculum which necessitates student-centered education. Furthermore, no studies specific to peer learning or critical friendship in the clinical education of associate degree nursing students were conducted in Jordan or even worldwide and this is the gap that was found in our search in the literature about the critical friendship approach. Therefore, this study to answer the following questions:

1. Are there any incidental reports regarding student misconduct received from senior nursing students, nurse preceptors, or reported directly from patients or patients' families for the faculty member?
2. What are the experiences of the senior nursing students toward the critical friendship approach to determine the influence of the approach from their points of view?
3. What are the experiences of the junior nursing students toward the critical friendship approach to determine the influence of the approach from their points of view?

Methods

Design

Since no measurements could be taken before starting the clinical training A quasi-posttest-only static-group design²⁰ was utilized. Nursing students' experience of participation in the critical friendship approach could not be evaluated initially by incorporating a pretest measure as they had no idea

or experience with this type of peer learning method. However, the average performance of the students who participated in this study could be compared with other students who were not involved in the critical friendship approach.

Sample

To obtain a large number of senior participants, a purposeful sampling procedure was used. The minimum sample size required using G- power²¹ with a medium effect size of 0.6 and power of 0.8 at α level of significance 0.05 (two-tailed) is 90 participants. In our study, 79 senior nursing students were approached, and 45 of them (57%) met the criteria for participation. Eight nurse preceptors were officially assigned to supervise the senior students in collaboration with faculty members. The criteria for senior students to participate in the study were a voluntary agreement to participate, willingness to help their junior colleagues, receiving training for adult health /clinical course at the assigned area for implementing the piloted approach and having a minimum of 70% of their previous achievements in nursing clinical courses. While a convenience sampling procedure for junior students was used, 80 junior nursing students, divided into four groups, were assigned to the practice area where the piloted approach was implemented, and all of them voluntarily agreed to participate in the study. Each group of juniors includes 20 students led by a faculty member who practiced for six hours one day per week for a minimum of 12 weeks for each student.

Settings and procedure

The settings where this study was implemented are dedicated educational acute care units. A dedicated education unit is "a health care unit where education, in addition to patient care, is a primary function"²². The piloted approach was implemented in two educational hospitals, with four dedicated education units in each hospital with 32- beds inpatients. The occupancy rate declined with commitment to the rules and regulations of COVID-19 from 90 % to 50%. Nurse preceptors are officially assigned to train, supervise the senior students' training, and share their clinical evaluations. A faculty member was assigned to train the junior students and collaborate with the nursing directorate, quality management

nursing team, infection control nursing team, and the nurse preceptors to ensure the seniors and junior nursing students' commitment to official rules and regulations of training, hospital policies and procedures, and patients and trainees safety. Senior students were supposed to help the junior students with a mutual critical friendship approach. Junior students were permitted to choose the senior critical friend and to change him if the junior was not satisfied with this mutual relationship by filling out a documented request to explain the rationale for change and delivered directly from the concerned student to the faculty member whose agreement is a prerequisite for the change.

Data collection

The instrument used in this study was a self-administered electronic innominate questionnaire that involved 11 items to evaluate the senior student's experience of participating in the critical friendship approach (Appendix A). To evaluate the juniors' experience, students were provided with a questionnaire that contained 11 items (Appendix B). Both questionnaires were written in Arabic language, validated by 3 academics specialized in the field of nursing education for face validity and some modifications were done according to their feedback after undergoing pilot testing (see acknowledgment). To evaluate the reliability of the instruments each of the two indexes was piloted in 10 of the students who share the same characteristics of the study sample but were not included in the study. Cronbach's alpha for index A and Index B was 0.86. and 0.82, respectively.

Data analysis

Submitting the filled questionnaire toward the end of the clinical practice period was accepted as a criterion to indicate the participation of both seniors and junior nursing students in the study sample. A total of 45 senior questionnaire forms and 78 junior questionnaires were received which indicate a response rate of 100% for senior and 97.5 % for junior group. Seniors' forms were evaluated to ensure that the participant met the selection criteria, if not the

form was dismissed from data analysis. 45 of the total senior students (100%) met the selection criteria. The IBM Statistical Package for Social Science (SPSS) ²³ was used to calculate the descriptive statistics in the form of means and standard deviation for each item, and the total appendix items mean in both appendices A and B were calculated.

Results

The total sample in our study was 125 participants: 45 senior students and 80 junior students. The Scio-demographic data from seniors and junior participants reveals that all participants' ages in both seniors and juniors are limited between 20 – 22 years. The majority of participants were females 13 (29%) participants of the seniors were males. 27 (33%) of the juniors participants were males, it is important to note that only 33% of all Jordanian nursing students are males as permitted by the selection criteria. The first question of this study was "Are there any incidental reports regarding task error or student misconduct received from senior nursing students, nurse preceptors, or reported directly from patients or patients' families for the faculty member?". This question was addressed by reviewing the reports received from senior nursing students, nurse preceptors, or reported directly from patients or patients' families for the faculty member to find *that there is no incidental report regarding task error or student misconduct received all over the semester*. The second question of this study was "What are the experiences of the senior nursing students toward the critical friendship piloted approach as indicated by survey data completed by them to determine the influence of the piloted approach from their points of view?" To answer this question the senior nursing students' responses to items presented in Appendix (A) (*available upon request*) which was designed to evaluate the senior student's experience of participating in the critical friendship approach. Results presented in Table 1 show that the senior students evaluated their experience in participation in the piloted approach exceeded 90% in all the evaluated items.

Table (1): The Means and Standard Deviations of Senior Students' Experiences of Participating in the Critical Friendship Approach

My participation in the critical friendship approach:			
		Mean%	SD
1	Enhanced my ability in planning, implementing, and evaluating the work plan for myself and my critical friend, and other colleagues.	95	0.28
2	Enhanced my positive attitudes toward nursing profession.	91	0.29
3	Encouraged me to initiate some initiatives to improve the quality of myself and my colleagues training.	95	0.21
4	Improved my commitment and interest in clinical training.	95	0.93
5	Improved my awareness of problems faced the clinical teaching - learning process.	95	0.95
6	Improved my chance to communicate with my colleagues, patients, and patients' families. Also, the chance to communicate with hospital staff, preceptors and faculty member was improved.	95	0.93
7	Improved my communication skills in communicating with my critical friend, colleagues, patients, and patients' families. Also, communication with hospital staff, preceptors and faculty member was improved.	95	0.93
8	Improved my chance to demonstrate the nursing task appropriately.	95	0.21
9	Improved my punctuality and commitment to the scheduled time of arriving and leaving the practice area.	95	0.29
10	Improved my commitment to nursing code of ethics and conduct to reflect a role model characteristics for my friend, and others.	95	0.21
11	Improved my understanding to the importance of taking care of personal privacy of myself and all others.	95	0.21

Table 2 shows the experiences of the juniors nursing students toward the critical friendship piloted approach as indicated by their mean answers in Appendix (B) (available upon request) which was designed to capture the juniors' evaluation of their experiences in participating in the piloted critical friendship approach. In evaluating their experiences in participating in the piloted approach the juniors' highest mean scores given to items evaluated the effect of the piloted approach on the participant's positive attitudes toward the nursing profession, commitment and interest in clinical training, a chance to demonstrate the assigned nursing task appropriately, feeling of self-confidence, relaxing, and safe, with

a mean which exceeds of 90%, followed by the positive effect of the piloted approach on the juniors experiences to initiate some initiatives to improve the training for themselves and their colleagues, commitment to nursing code of ethics and conduct to reflect a role model characteristics for student's friends, and others, improved understanding to the importance of taking care of personal privacy to self and all others. The lowest mean score 75% given to item evaluate the effect of the piloted approach on the participant's punctuality and commitment to the scheduled time of arriving and leaving the practice area.

Table (2): The Means and Standard Deviations of juniors' Students' Experiences of Participating in the Critical Friendship Approach

My participation in the critical friendship approach:			
		Mean%	SD
1	Enhanced my positive attitudes toward nursing profession.	95	0.21
2	Encouraged me to initiate some initiatives to improve the quality of myself and my colleagues training.	90	0.29
3	Improved my commitment and interest in clinical training.	95	0.21
4	Improved my awareness of problems faced the clinical teaching - learning process.	90	0.29
5	Improved my chance to communicate with my colleagues, patients, and patients' families. Also, the chance to communicate with hospital staff, preceptors and faculty member was improved.	90	0.29
6	Improved my communication skills in communicating with my critical friend, colleagues, patients, and patients' families. Also, communication with hospital staff, preceptors and faculty member was improved.	90	0.29
7	Improved my chance to demonstrate the assigned nursing task appropriately.	95	0.21
8	Improved my feeling of self-confidence, being relax, and safe.	95	0.21
9	Improved my punctuality and commitment to the scheduled time of arriving and leaving the practice area.	75	0.41
10	Improved my commitment to nursing code of ethics and conduct to reflect a role model characteristics for my friend, and others.	90	0.29
11	Improved my understanding to the importance of taking care of personal privacy of myself and all others.	90	0.29

Discussion

Facilitating nursing students' clinical education continuity and generating solutions to overcome the limitations that arise with COVID-19 the goal of this study it runs with the trends highlighted by nursing researchers⁹. Also, the critical friendship approach as one of the coaching techniques where students learn from each other's experiences had been suggested by Weberg et al.,³. The importance of nursing students' evaluation of educational approach as they are partners in the educational process, and their points of view are major elements highlighted by Elldrissi et al.,²⁴. The results of this study are consistent with other studies which indicated that collaboration is the key to peer learning, peer support was effective in relieving the students' clinical stress and enhanced psychomotor skill development^{25,26}.

In the dedicated education unit where the current study utilizing the critical friendship piloted approach was implemented as an incidental

innovative clinical teaching-learning strategy, peer learning was recommended as a solution in case of resource scarcity in the clinical nursing practice settings^{27,28}.

Both senior and junior nursing students evaluated their experiences in participation in the piloted critical friendship approach in a total mean evaluation which almost exceeds 90%. The results of this study aligned with the benefits of the peer learning approach confirmed by Markowski et al.¹⁹. After 47 nursing studies that were carried out over ten years 2010 - 2020 reviewed to evaluate the peer learning approach. Markowski et al.¹⁹ confirmed that any peer learning is beneficial in supporting students' confidence and teamwork skills, and concluded that any form of collaborative placement model requires careful planning and continuous preparation for staff and students. The high response rate of both groups; seniors and juniors which reached 100% could be attributed to the positive interest of both seniors and

juniors groups of participants. The lowest mean score of 75% given to the item that evaluated the effect of the piloted approach on the junior participants' punctuality and commitment to the scheduled time of arriving and leaving the practice area could be attributed to the attitude measured by the item which reflects personal trait and commitment to clinical practice policy and procedure rather than the presence of the critical friend.

Conclusion and recommendations

The critical friendship approach was utilized as a mutual peer learning approach aimed to maintain nursing students' clinical education where senior nursing students supervised by faculty members in collaboration with the nursing preceptors practice to fulfill the requirements of their last undergraduate clinical course.

The senior students were supposed to provide help in the form of critical friendships to faculty-led groups of juniors from the same university admitted to clinical practice for the first time. The senior and junior associate nursing students positively evaluated their experiences in participation in the piloted approach. Furthermore, implementing the piloted approach did not interfere with the policies and procedures of clinical education, and the clinical training passed as it was supposed to be without any additional staff, time, or cost. The critical friendship approach made both junior and senior nursing students have positive attitudes toward the nursing profession, commitment and interest in clinical training, and have a better chance to demonstrate the assigned nursing task appropriately, feeling of self-confidence, being more relaxed, and safe. In addition, they had more commitment to nursing code of ethics and reflected a role model for their friends, and others, improved understanding to the importance of taking care of personal privacy to self and others.

Even it is essential to be actively engaged in such learning methodologies as the critical friendship approach, to form a higher quality and safer learning environment. Further planning based on appropriate systematic evaluation, using larger groups of students and educators, and the effect of the critical friendship approach on patient satisfaction and students' learning outcomes are recommended.

Our study had limited to that data was collected only from the students in two practice areas, the risk of selection bias due to using a quasi-posttest-only static group design, and some publications with relevant data may have been not reached. The authors' implications from the study results employ critical friendship as an important peer relationship fostering clinical education through which students learn from each other experiences

Ethical Clearance: Permission was requested and approval was obtained from the Faculty of Health Sciences' Research Ethics Committee of Al-Balqa Applied University (**IRB- 26/3/2/124/2023**).

Declaration of interest: None.

Funding source: Nil

References

1. World Health Organization. State of the world's nursing 2020: investing in education, jobs and leadership. <https://www.who.int/publications/i/item/9789240003279> (2020).
2. International Council of Nurses. Nursing Education and The Emerging Nursing Workforce in COVID-19 Pandemic. *AJN, Am. J. Nurs.* 62, 120 (2021).
3. Weberg, D., Chan, G. K. & Dickow, M. Disrupting Nursing Education in Light of COVID-19. *Online J. Issues Nurs.* 26, (2021).
4. Lira, A. L. B. de C., Adamy, E. K., Teixeira, E. & da Silva, F. V. Nursing education: challenges and perspectives in times of the COVID-19 pandemic. *Rev. Bras. Enferm.* 73, 5–9 (2020).
5. Tolyat, M., Vagharseyyedin, S. A. & Nakhaei, M. Education of nursing profession amid COVID-19 Pandemic: A qualitative study. *J. Adv. Med. Educ. Prof.* 10, 39–47 (2022).
6. Dewart G.; Lynn c.; Lorraine t.; Kristin P. Nursing education in a pandemic: Academic challenges in response to COVID-19. *Nurse Educ. Pract.* 92, (2020).
7. Frenk, J. et al. Challenges and opportunities for educating health professionals after the COVID-19 pandemic. *Lancet* 400, 1539–1556 (2022).
8. Jackson, D. et al. Life in the pandemic: Some reflections on nursing in the context of COVID-19. *J. Clin. Nurs.* 29, 2041–2043 (2020).
9. Morin, K. education after COVID-19: Same or different? *J. Clin. Nurs.* 29, 3117–3119 (2020).

10. Al- Momani, S. M. & Fayeze Abdu, M. Field Training and Level of Stress in College Students: A comparison between Nursing Students who take care of ill Children and Early Childhood Education Students who Take care of Healthy Children. *Advances in Social Sciences Research Journal* vol. 5 (2018).
11. Rasiah, R., Kaur, H. & Guptan, V. Business continuity plan in the higher education industry: University students' perceptions of the effectiveness of academic continuity plans during COVID-19 pandemic. *Appl. Syst. Innov.* 3, 1–21 (2020).
12. Grafton, E., Elder, E. & Burton, R. Innovative strategies to maintain nursing students' academic continuity during COVID 19 pandemic. *J. Appl. Learn. Teach.* 4, 21–28 (2021).
13. Ghasemi, M. R., Moonaghi, H. K. & Heydari, A. Strategies for sustaining and enhancing nursing students' engagement in academic and clinical settings: A narrative review. *Korean J. Med. Educ.* 32, 103–117 (2020).
14. Costa, A.L., Kallick, B. *through_the_lens_of_a_critical_friend.pdf*. 51, 49–51 (1993).
15. Swaffield, S. Light touch critical friendship. *Improv. Sch.* 10, 205–2019 (2016).
16. Ragoonaden, K. Self-study of teacher education practices and critical pedagogy: The fifth moment in a teacher educator's journey. *Stud. Teach. Educ.* 11, 81–95 (2015).
17. Ragoonaden, K., & Bullock, S. Critical friends: The practiced wisdom of professional development. in *Mindfulness and critical friendship: A new perspective on professional development for educators* 13–32 (Lanham, MD: Lexington Books, 2016).
18. Kolb, D. A. *Experiential Learning: Experience as The Source of Learning and Development*. Prentice Hall, Inc. 20–38 (1984) doi:10.1016/B978-0-7506-7223-8.50017-4.
19. Markowski, M., Bower, H., Essex, R. & Yearley, C. Peer learning and collaborative placement models in health care: a systematic review and qualitative synthesis of the literature. *J. Clin. Nurs.* 30, 1519–1541 (2021).
20. Polit, DF., B. C. *Nursing Research: Generating and Assessing Evidence for Nursing Practice*. (Wolter Kluwer., 2021).
21. Erdfelder, E., FAul, F., Buchner, A. & Lang, A. G. Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behav. Res. Methods* 41, 1149–1160 (2009).
22. Budgen, C. & Gamroth, L. An overview of practice education models. *Nurse Educ. Today* 28, 273–283 (2008).
23. Statistics, I. B. M. S. *IBM SPSS statistics for windows*. (2015).
24. ElMachtani ElIdrissi, W., Lajane, H., Chemsy, G. & Radid, M. Evaluation of Clinical Teaching by Nursing Students at the Higher Institute of Nursing and Health Techniques in Casablanca, Morocco. *J. Educ. Soc. Res.* 12, 28–39 (2022).
25. Aslan PhD, H. & Erci PhD, B. The Impact of Peer Support Provided to the First-Year Students of Nursing on the Clinical Stress and Psychomotor Nursing Skills. *Int. J. Caring Sci.* 14, 68–78 (2021).
26. Kim, H. J. The Effects of Fundamental Nursing Practice Education Applying Reciprocal Peer Tutoring on Self-Efficacy, Confidence in Performance, Satisfaction. *J. Digit. Converg.* 18, 315–323 (2020).
27. Stenberg, M., Bengtsson, M., Mangrio, E. & Carlson, E. Preceptors' experiences of using structured learning activities as part of the peer learning model: A qualitative study. *Nurse Educ. Pract.* 42, 102668 (2020).
28. Carbone, R. et al. Peer support between healthcare workers in hospital and out-of-hospital settings: a scoping review. *Acta Biomed.* 93, (2022).

Call for Papers/ Article Submission

Article submission fee

- Please note that we charge manuscript handling charges for all publications. Charges can be enquired by sending mail.
- In cases of urgent publication required by author, he /she should write to editor for discretion.
- Fast tracking charges are applicable in urgent publication
- Please note that we charge only after article has been accepted for publication, not at the time of submission.
- Authors have right to withdraw article if they do not wish to pay the charges.

Article Submission Guidelines

1. Title
2. Type of the article-Original/Review/Case study
3. Names of authors(only 7 authors)
4. Your Affiliation (designations with college address)
5. Corresponding author- name, designations, address, email id.
6. Abstract with key words (200-300 words)
7. Introduction or back ground
8. Material and Methods
9. Findings
10. Discussion
11. Conclusion
12. Conflict of interest –
13. Source of Funding- self or other source
14. Ethical clearance –
15. References in Vancouver style
16. Word limit 2500-3000 words, MSWORD Format, single file
17. Please quote references in text by superscripting

OUR CONTACT INFO

Institute of Medico-Legal Publications Pvt Ltd

Logix Office Tower, Unit No. 1704, Logix City Centre Mall, Sector- 32,
Noida - 201 301 (Uttar Pradesh)

Ph. No: +91 120 429 4015

E-mail: editor.ijone@gmail.com, Website: www.ijone.org



International Journal of Nursing Education

CALL FOR SUBSCRIPTIONS

About the Journal

Print-ISSN: 0974-9349 **Electronic - ISSN:** 0974-9357, **Frequency:** Quarterly (Four issues in a year)

“International Journal of Nursing Education” is an international peer reviewed journal. It publishes articles related to nursing and midwifery. The purpose of the journal is to bring advancement in nursing education. The journal publishes articles related to specialities of nursing education, care and practice. The journal has been assigned international standard serial numbers 0974-9349 (print) and 0974-9357 (electronic).

Journal Title	Print Only
Indian Journal of Nursing Education	INR 11000/-

NOTE FOR SUBSCRIBERS

- Advance payment required by cheque/demand draft in the name of “Institute of Medico-Legal Publications” payable at New Delhi.
- Cancellation not allowed except for duplicate payment.
- Claim must be made within six months from issue date.
- A free copy can be forwarded on request.

Bank Details

Name of account : **Institute of Medico-Legal Publications Pvt Ltd**
Bank: **HDFC Bank**
Branch **Sector-50, Noida-201 301**
Account number: **09307630000146**
Type of Account: **Current Account**
MICR Code: **110240113**
RTGS/NEFT/IFSC Code: **HDFC0000728**

Please quote reference number.

Send all payment to :

Institute of Medico-Legal Publications Pvt Ltd

Logix Office Tower, Unit No. 1704, Logix City Centre Mall,
Sector- 32, Noida - 201 301 (Uttar Pradesh) Ph. No: +91 120 429 4015,
E-mail: editor.ijone@gmail.com, Website: www.ijone.org

Printed: Printpack Electrostat G-2, Eros Apartment, 56, Nehru Place, New Delhi-110019

Published at: Institute of Medico Legal Publications Pvt. Ltd., Logix Office Tower, Unit No. 1704, Logix City Centre Mall, Sector- 32,
Noida - 201 301 (Uttar Pradesh) Ph. No: +91 120- 429 4015