

Factors Hindering to Research Utilization in Nursing Practice at Public Tertiary Care Hospital

Tasleem Bibi^{1*}, Parveen Akhtar², Muhammad Zakariya³, Aisha⁴, Gobind Rai¹, Farah Anil⁵

ABSTRACT

OBJECTIVE: To identify the factors hindering nurses from using research findings in their practices.

METHODOLOGY: An analytical cross-sectional study was conducted among registered nurses at Liaquat University Hospital Hyderabad / Jamshoro. All male and female nurses with one year of job experience were included, and those nurses who had no experience and were not willing to participate were excluded from the study. Written informed consent was obtained for participation, and the questionnaire regarding barriers to research utilization developed by Funk et al. was used in this study. Data were collected from August to October 2019. The nonprobability convenience method was applied to collect the data, and 141 questionnaires were distributed among registered nurses working in different departments. Data were analyzed through SPSS Version 22.

RESULTS: Results indicated that 86% of nurses agreed that research is essential, but a deficient percentage (21%) of nurses had conducted a study, and only 3.3% had utilized research findings in their practice. The main barriers to research utilization include lack of time, nurses not having the authority to change patient care procedures, inadequate facilities, nurses' lack of research knowledge, and lack of research training.

CONCLUSION: Based on study findings, there is a need to facilitate nurses by avoiding those barriers or providing facilitation by arranging research training and seminars, organizational motivation, and giving authority to decide on patient care will improve health care status of the patient, family, community, and country with research knowledge and application.

KEYWORDS: Factors, Barriers, Hindering, Research Utilization, Facilitation, Nursing Practice.

INTRODUCTION

Globally, research utilization has become a vital part of the nursing profession in improving health care status by implementing research findings into practice, advancing the nursing profession^{1,2}. Although research and its application are essential and crucial, it is the most neglected area of the health care system³. One study indicated that only twenty percent of nurses stated they are engaged in research, and around 53.6 % are utilizing research at work⁴.

Using research findings signifies that nurses should be aware of research and its importance in using research evidence in their practices. However, most nurses have no interest in conducting research and its utilization, and even though nurses conduct research, there is no focus on using those findings in practice^{1,5}.

One study indicated that 60% of registered nurses do not use research findings in patient care settings⁶.

Factors hindering the utilization of research include lack of research awareness among nurses, insufficient time at the workplace, lack of cooperation by physicians and other staff on the floor, inaccessibility to research articles, challenges to understanding research language, lack of proper research training and nurses lack the authority to change current practices^{1,7,8}. Many studies indicated that the lack of authority for nurses is the topmost barrier and that improving managerial support is the topmost facilitator of research utilization^{1,6,9,10}.

Lack of knowledge about research, its method, and its application causes difficulty for nurses when using research in practice. Insufficient time to read articles about current evidence or practices is challenging for nurses due to the workload on the floor^{1,4,6,10}.

Nurses lack interest in conducting studies and knowledge about research methods and their findings, which hinders the application of research in practice¹¹. Many studies have proved that these factors related to the setting/organization hinder research utilization, including insufficient time to read articles, implementation of new ideas, lack of support from managers and physicians, and lack of authority to change current practices^{4,12,7,13}.

This study has provided data about the factors affecting research utilization in nursing practice and the strategies to improve the use of research to

¹Clinical Instructor, Liaquat College of Nursing, Jamshoro, Sindh-Pakistan.

²Assistant Professor, Peoples Nursing School, LUMHS, Jamshoro, Sindh-Pakistan.

³Nursing Instructor, Rising Star Institute of Nursing, Hyderabad, Sindh-Pakistan.

⁴Staff Nurse, NICVD Hyderabad, Sindh-Pakistan.

⁵Director Nursing, St. Elizabeth's Hospital, Hyderabad, Sindh-Pakistan.

*Correspondence: tasleembibi16@gmail.com

doi.10.22442/jlumhs.2021.00836

Received: 05-01-2021 Revised: 06-09-2021

Accepted: 27-09-2021 Published Online: 02-11-2021



provide quality care to patients that will improve the health status of the community through evidence-based practice.

One study found that more than 80% of nurses struggled to understand the analysis (statistical)¹¹. Another study also found that statistical analysis is complex for nurses to understand^{14,15}. One study from Lahore, Pakistan, found that research articles do not get published fast as a barrier to research use¹².

This study has been conducted to determine the factors hindering nurses from using research findings in their practices. There is a scarcity of data availability in Pakistan because minimal studies have been conducted in Pakistan about research utilization and barriers hindering the adoption of research utilization in nursing. Therefore, this study would also help develop strategies to facilitate nurses conducting research and incorporating findings in their practices to improve the health status of patients, families, communities, and countries and meet the healthcare challenges of the 21st Century.

METHODOLOGY

An analytical cross-sectional study was conducted among registered nurses in different departments/specialities at Liaquat University Hospital Hyderabad/Jamshoro. Data was collected from August to October 2019. All male and female registered nurses with one year of job experience and those nurses who were willing to participate were included in the study. Those with less than one year of experience and unwilling to participate were not part of the study. The sample size was calculated through Raosoft; 141 sample sizes were suggested, and 121 nurses participated/filled out the questionnaire. The subjects of the study were registered nurses who met the inclusion criteria. Written informed consent was taken from every subject for participation in the study. Due to limited samples, the data was collected through a non-probability sampling technique on the pre-designed questionnaire.

The questionnaire consisted of three sections: Section A contains a demographic variable, and Section B contains questions related to the importance of research. The c section has items regarding factors / barriers to research utilization. It has three subscales: Nurses related barriers, setting-related barriers, and research-related barriers, with five options on the Likert Scale: strongly disagree, disagree, no opinion, agree, and strongly agree. Most of the items have been adopted from the "Barriers Scale" developed by Funk et al.¹⁷, and many authors have used this questionnaire with an alpha of 0.84.

Data was collected after approval from the Ethical Review Committee Liaquat University of Medical and Health Sciences, Jamshoro, and permission was taken from the Medical Superintendent of Liaquat University Hospital Jamshoro/Hyderabad.

Data were analyzed through SPSS version 22. The chi-square test has been applied to find out the

association between demographic variables and research's importance with the significance level (≤ 0.05). One sample T-test was used to identify barriers to research utilization with a P-value of less than 0.05.

RESULTS

Graph I shows 9.1 % of nurses were found in the age group from twenty-four to twenty-eight years, followed by 35.5% from twenty-nine to thirty-three years, 34.7% from thirty-four to thirty-eight years, 18.2% from thirty-nine to forty-three years, and 2.5% in forty-four and above. The mean age of participants was 34 years, with a standard deviation of 3.6 years.

Twenty percent of 121 nurses agreed that they had conducted the research, but only 3.3% said they had utilized research findings or evidence in their practice.

In this study, 60% of nurses said they had attended research seminars, and the remaining 40% said they had not participated in any research seminar.

Regarding qualification, the study shows that more than half (64.5%) of nurses had acquired Post RN BScN, 18.2% had a diploma in general nursing, 14% were generic BS nursing, 2% had a master's in nursing, and 2% had master in public health.

According to results, 45.5% of nurses have seven to eleven years of job experience, followed by 28.9% twelve years and above and 25.6% from two to six years of working experience in hospital.

GRAPH I: DISTRIBUTION OF PARTICIPANTS' AGE

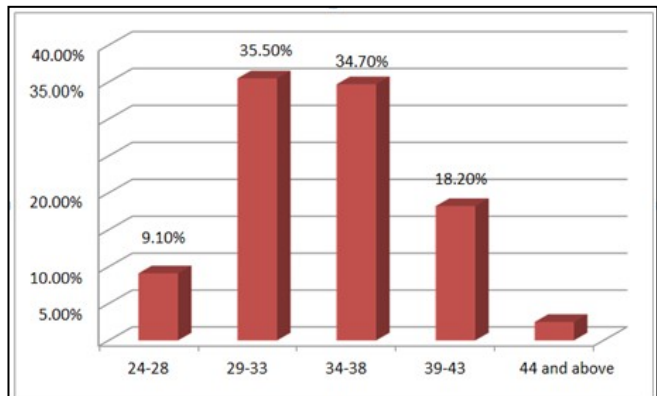


Table I shows a significant association between the importance of research in nursing and the participant's age and job experience p-value (< 0.05).

Results show that the factor of "I don't feel I have enough authority to change patient care procedures" has been the primary/significant Nurse related factor in the utilization of nursing research (mean 3.56 ± 1), followed by "I do not see the value of research for practice" (mean 3.36 ± 1.0) and another barrier as "I have no ability/skills to conduct research" (mean 2.7 ± 1.1).

In organization related barriers, no facility of computers and Internet is the main factor in the utilization of nursing research (Mean 3.98 ± 0.66), followed by research seminars are not arranged in

hospitals (Mean 3.97±0.85) and another factor as there is insufficient time on the job to implement new ideas (Mean 3.94 0.±95).

In research related barriers, the training not conducted in the institute is the main barrier (mean 4.0±0.7), followed by research articles that are not readily available (mean 3.55 ± 0.8). Research findings are not clear (mean 3.32 ±1).

Table II shows that in other barriers, nurses reported that workload is the main barrier (59.5%).

Table III shows that suggestions for facilitation of research utilization in nursing were reported as research training for nurses (38%), maintaining the nurse-patient ratio to decrease burden (30%), and motivation by the organization (31%).

Table IV shows that the most significant barrier in research utilization was found to be a related barrier with a mean of 102.7 and standard deviation of 6.8, followed by organization related barrier mean of 96.8 and standard deviation of 14.4 and research related barriers with a mean of 91.33 and standard deviation of 8.57.

TABLE I: ASSOCIATION OF DEMOGRAPHIC CHARACTERISTICS WITH THE SIGNIFICANCE OF RESEARCH IN NURSING

Characteristics	Yes	No	P Value
Particip- ant's age	24-28	9.1%	0%
	29-33	33.1%	2.5%
	34-38	32.2%	2.5%
	39-43	12.4%	5.8%
	44 and above	0.8%	1.7%
Job experience	2- 6 Years	25.6%	0%
	7-11 years	40.5%	5.0%
	12 years and above	21.5%	7.4%
	In charge/Head Nurse	5.0%	5.0%

TABLE II: OTHER BARRIERS HINDERING NURSES' USE OF RESEARCH

Barriers	Frequency	Percentage	Mean+ SD
Workload	72	59.5	1.4
Lack of interest and support by the administration	49	40.5	0.49
Total	121	100.0	

TABLE III: STRATEGIES TO FACILITATE RESEARCH UTILIZATION IN NURSING

Strategies	Frequency	Percentage
Research training for nurses	46	38.0
Decrease workload	38	31.4
Motivation by organization	37	30.6
Total	121	100.0

TABLE IV: SHOWS T-TEST STATISTICS FOR BARRIERS IN RESEARCH UTILIZATION

	N	Mean	Std. Deviation	Sig. (2-tailed)
Nurse related barriers	7	102.71	6.800	0.000
Organization related barriers	9	96.89	14.452	0.000
Research related barriers	6	91.33	8.571	0.000

DISCUSSION

This study reported that 20 percent of subjects had conducted the research. One of the other authors also stated that only 21 % of nurses responded as they conducted the research⁴. That means nurses are not too involved in research conduction, and we need to identify the factors/barriers to facilitate and encourage nurses to conduct research. Nurses in public hospitals are not given an environment where they can investigate the problems related to nursing care.

In response to utilizing research findings/evidence in practice, only 3.3% of nurses have applied/implemented research. One study showed that 36% of the respondents agreed they had participated in research, but only 25% of nurses stated that they had applied research results in practice¹⁶. Daphne C Duncombe¹⁸ reported that more than 70 percent of nurses never tried implementing evidence-based practice (research-based). This minimum utilization of research may be attributed to nurses' lack of interest in knowledge, maybe because of a lack of resources and cooperation to apply the latest nursing evidence and theories.

The present study revealed that more than 60% of nurses agreed to attend research seminars. Another study reported that more than fifty percent of nurses agreed that they rarely participate in research-related work¹⁴. It is suggested that nurses be motivated and encouraged to use research evidence in practice. According to the results, this study found three significant factors/barriers related to Nurses: I do not feel I have enough authority to change patient care, I do not see the value of research for practice, and another barrier is that I have no ability/skills to conduct research. One author from Lahore, Pakistan, also reported that fifty percent of nurses responded that they did not feel enough authority to change the patient care procedure¹². This study is also from public tertiary care hospitals in another city in Pakistan, but responses match each other, which may be nurses feeling the same situation throughout the country.

Many other studies from different countries also reported these factors as top barriers¹⁹⁻²¹; this means nurses are not empowered or allowed to decide on patient care. So nurses must be involved in decision-making regarding patient care because it provides comfort to the patient besides their medication.

In organization-related barriers, a lack of facilities at work is the main factor, and it was agreed that the authority does not arrange research seminars and that

there is insufficient time to implement new ideas. Public hospitals lack state-of-the-art facilities in Sindh, especially regarding the availability of computer and internet facilities. These are the main barriers preventing nurses' access to new developments in nursing practices. One study answered that from 158 nurses, a total of 86 stated that there are inadequate facilities to implement research findings in their practice/setting and the same survey also revealed that there is a significant association between insufficient time to read articles and participation of nurses in research¹⁶, a study from Spain agrees on this statement²⁰. Sanjari M 2015¹⁰ found that nurses feel they do not have sufficient time, so they cannot implement new ideas.

Regarding the lack of time for research, one study found that nurses reported not having enough time to focus on research^{22,23}.

The organization plays a vital role in employees' personal and professional development. It is therefore necessary to provide efficient resources to the employees and distribute time/duty shifts equally so nurses can get time to focus on research.

Regarding other barriers, more than fifty percent of nurses answered workload as the main barrier (59.5%) and lack of support by administration (40.5%). One study revealed that more than 70% of registered nurses were under moderate or vigorous working pressure⁸. Therefore, implementing research findings would need to change the employees' working routines.

Regarding strategies to facilitate research utilization, nurses suggested three main facilitators, including research training for nurses (38%) and motivation by organization (31%) to decrease workload (30%). In other studies, nurses answered these facilitating factors as work timing and training in research and motivation for research by nursing managers, cooperation from colleagues and physicians, working hours not more than eight hours, and access to the research library^{24,25}.

In this study, T-test Statistics for barriers in research utilization show the nurses related barrier as the most significant barrier with a mean of 102.7 and standard deviation of 6.8, followed by organization related barrier mean of 96.8 and standard deviation of 14.4 and research related barrier with a mean of 91.3 and standard deviation of 8.5 and these means were found statistically significant with p-value < 0.001.

This study shows that all three factors/barriers may hinder nurses from applying research findings in their practice. Still, nurse-related factors have been identified as more constraining factors for research utilization. Therefore, only one factor is not responsible for the least utilization of nursing research. Still, all three factors/barriers must be focused on and improved so that nurses can apply research in nursing practice.

However, nurses must be interested in research activities such as finding recent information on

bedsore prevention and healing, administering medications with the lowest possible side effects, integrating the latest instructions while teaching patients, and incorporating updated nursing interventions in nursing care plans.

CONCLUSION

The nurses agreed that research is essential to improve patient health outcomes and advance the nursing profession. At the same time, a meagre percentage of nurses stated they had conducted research and applied research findings in practice. All these factors are shown to be essential. Still, the study proved that lack of time, the inability of nurses to conduct research, lack of authority, resources, and support from the organization and unavailability of the research article, as well as the workload, are the main barriers. That needs to facilitate nurses by providing facilitation by arranging research training, motivating them to be involved in research and its application, giving efficient resources like research articles, equal distribution of time/shift so nurses can get time to focus on research and giving them authority to decide on patient care to improve the health of the patient, family, and community as well improve the image of nurses with research knowledge and application.

Ethical Permission: Liaquat University of Medical & Health Sciences, Jamshoro, ERC letter No. LUMHS/REC/-06.

Conflict of Interest: There is *no* conflict of *interest among the authors*.

Financial Disclosure / Grant Approval: There was no funding agency.

Data Sharing Statement: The data supporting this study's findings are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

AUTHOR CONTRIBUTION

Bibi T:	Conducted research
Akhtar P:	Writing the manuscript
Zakaria M:	Literature search
Aisha:	Data collection
Rai G:	Data analysis
Anil F:	Data collection

REFERENCES

1. Bahadori M, Raadabadi M, Ravangard R, Mahaki B. The barriers to the application of the research findings from the nurses' perspective: A case study in a teaching hospital. *J Educ Health Promot.* 2016; 5(1):14.
2. Karimian Z, Kojouri J SM. A review of evidence-based medical education at universities in and outside Iran. *nterdisciplinary J Virtual Learn Med Sci.* 2015; 6(1): 64-75.
3. Stokke K, Olsen NR, Espehaug B, Nortvedt MW. Evidence-based practice beliefs and implementation among nurses: A cross-sectional

- study. *BMC Nurs.* 2014; 13: 8. doi: 10.1186/1472-6955-13-8
4. Kyalo Mutisya A, KagureKarani A, Kigondu C. Research Utilization among Nurses at a Teaching Hospital in Kenya. *J Caring Sci.* 2015;4(2):95-104.
 5. Mackey A, Bassendowski S. The History of Evidence-Based Practice in Nursing Education and Practice. *J Prof Nurs.* 2017; 33(1): 51-55. doi: 10.1016/j.profnurs.2016.05.009. Epub 2016 May 18.
 6. Mohsen MM, Safaan NA, Okby O. Facilitating Factors for Overcoming Barriers Facing Nurses for Research Utilization in Clinical Settings. *Am J Nurs Res.* 2016; 4(1): 13-24. doi: 10.12691/ajnr-4-1-3.
 7. Tacia L, Biskupski K, Pheley A, Lehto RH. Identifying barriers to evidence-based practice adoption: A focus group study. *Clin Nurs Stud.* 2015; 3(2): 90-96. doi: 10.5430/cns.v3n2p90
 8. Zhou F, Maier M, Hao Y, Tang L, Guo H, Liu H et al. Barriers to Research Utilization among Registered Nurses in Traditional Chinese Medicine Hospitals: A Cross-Sectional Survey in China. *Evidence-based Complement Altern Med.* 2015; 2015.
 9. Nashwan AJ, Abujaber AA, Mansour DB. Barriers to Research Utilization among Registered Nurses at Hamad Medical Corporation. *Int J Res Nurs.* 2016; 7 (2): 41-48.
 10. Sanjari M, Baradaran HR, Aalaa M, Mehrdad N. Barriers and facilitators of nursing research utilization in Iran: A systematic review. *Iran J Nurs Midwifery Res.* 2015; 20(5): 529-39. doi: 10.4103/1735-9066.164501.
 11. Shifaza F, Evans D, Bradley H. Nurses' Perceptions of Barriers and Facilitators to Implement EBP in the Maldives. *Adv Nurs.* 2014; 2014: 1-7.
 12. Kousar R, Kousar R, Azhar M, Waqas A, Gilani SA. Barriers of Research Utilization in Nursing Practices in Public Hospitals in Lahore, Pakistan. *Int J Appl Sci Biotech.* 2017; 5(2): 243.
 13. Yoder LH, Kirkley D, McFall DC., Kirksey KM, Stalbaum AL, Sellers D. Staff nurses' use of research to facilitate evidence-based practice. *Am J Nurs.* 2014; 114(9): 26-37. doi: 10.1097/01.NAJ.0000453753.00894.29.
 14. Nwozichi C, Ojewole F. Perceived Research Utilization Barriers among Nurses in a Rural Hospital in Nigeria. *Int J Adv Res Tech.* 2014; 3 (1): 184-91.
 15. Jun J, Kovner CT, Stimpfel AW. Barriers and facilitators of nurses' use of clinical practice guidelines: An integrative review. *Int J Nurs Stud.* 2016; 60: 54-68. doi: 10.1016/j.ijnurstu.2016.03.006.
 16. Nkrumah I, Atuhaire C, Priebe G, Cumber SN. Barriers for Nurses participation in and utilisation of clinical research in three hospitals within the Kumasi Metropolis, Ghana. *Pan Afr Med J.* 2018; 30: 24. doi: 10.11604/pamj.2018.30.24.15230.
 17. Funk SG, Tornquist EM, Champagne MT. Barriers and facilitators of research utilization. *Nurs Clin North Am.* 1995; 30(3): 395-407.
 18. Duncombe DC. A multi-institutional study of the perceived barriers and facilitators to implementing evidence-based practice. *J Clin Nurs.* 2018; 27: 1216-26.
 19. Buhaid N, Lau R, O'Connor M. A Survey of Nurses' Perceived Barriers to Research Utilization in Bahrain in Comparison to Other Countries. *Middle East J Nurs.* 2014; 8(2): 3-9.
 20. Mohammadi MM, Poursaberi R, Salahshoor MR. Evaluating the adoption of evidence-based practice using Rogers's diffusion of innovation theory: A model testing study. *Health Promot Perspect.* 2018; 8(1): 25-32. doi: 10.15171/hpp.2018.03.
 21. Mutisya A, KagureKarani A, Kigondu C. Research Utilization among Nurses at a Teaching Hospital in Kenya. *J Caring Sci.* 2015; 4(2): 95-104.
 22. Guadarrama Ortega D. Barriers to the utilization of research. Descriptive study performed on nurses at a hospital in the southwest of Madrid. *Enferm Glob.* 2016; 15(3): 261-88.
 23. Hagan JL, Armbruster P, Ballard R. Barriers to Research among Faculty at a Health Sciences University. *Am J Educ Res.* 2019; 7(1): 44-8.
 24. Tumer A. The barriers to research utilization of the nurses who work in a training and research hospital in western Turke. 24th World Nursing and Healthcare Conference, September 13-15, 2018, Copenhagen, Denmark. Available from: <https://world.nursingconference.com/abstract/2018/the-barriers-to-research-utilization-of-the-nurses-who-work-in-a-training-and-research-hospital-in-western-turkey>.
 25. Kueny A, Shever L, Lehan Mackin M, Tittler M. Facilitating the implementation of evidence-based practice through contextual support and nursing leadership. *J Healthc Leadersh.* 2015; 7: 29-39.

