



## ASSESSMENT OF ATTITUDE, BARRIERS AND FACILITATORS REGARDING RESEARCH UTILIZATION AMONG NURSING STUDENTS

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**ABSTRACT** **Background:** Research utilization (RU) is crucial to prepare the next generation of registered nurses, since they are expected to stay abreast of research, read and use existing research to improve their ability to solve problems, and make decisions independently in clinical settings. The objective of the study was to assess attitude, barriers and facilitators regarding research utilization among nursing students. **Method:** A descriptive study was conducted using total enumeration sampling technique to recruit 176 nursing students. Structured attitude scale and BARRIERS Scale were used for collecting the data by Self report technique. Reliability of structured attitude scale and BARRIERS scale were tested by cronbach's alpha were found to be 0.71 and 0.89 respectively. **Results:** The findings of the study revealed that nearly two third (67%) of the nursing students were having moderately favourable attitude regarding research utilization. The top three barriers identified by the nursing students were insufficient time to implement new ideas (67.6%), non- documented need to change practice (65.9%) and inadequate facilities for implementation (62.5%). The top three facilitators identified were advancing education to increase research knowledge base (32.95%), increasing the time availability for reviewing and implementing (18.18%) and improving availability and accessibility of research reports and timely publication (15.90%). **Conclusion:** The study concluded that nursing students were having moderately favourable attitude regarding research utilization. Therefore, nursing students should be encouraged and supported to utilize research findings in their practice settings by providing them sufficient time and knowledge to implement new ideas and should be supported by administration.

**KEYWORDS :** Attitude, Barriers, Facilitators, Research Utilization, Nursing Students.

### BACKGROUND

The term research utilization (RU) has been used since 1969, but without a well-known definition.<sup>[1]</sup> Research utilization is the application of findings of a study or set of studies with a practical relevance that is unrelated to the original research. It features on translating new information into real-world applications. Research utilization continuously express concern about whether nurses use the best available research evidence to guide their clinical practice.<sup>[2]</sup> This disparity between the availability of research evidence and its use in practice is often referred to as the 'research-practice gap'.

Research-practice gap has been featured in the nursing literature; most of the evidences are subjective due to complications that attempt to measure whether or not nursing practice is research-based. It remains generally accepted that a research-practice gap exists. The apprehension about the span of time between discovery and utilization turn out to be more intense, when it was found that a large number of the findings from the research were not being utilized. It has been noted that progress in using the findings of nursing research studies in practice has preceded too slowly and a gap between research and practice have appeared. Time lags are the time between the discovery and utilization of knowledge.<sup>[3]</sup>

Research utilization is a critical way to reinforce the discipline and practice of nursing. Enhancing research utilization will furnish nurses with the 'golden opportunity' to meet the patients' caring demands with the suitable positive responses. In a profession such as nursing, it is essential that nurses shows that their practice is effective, proficient and beneficial, and more likely to be suitable and justifiable.<sup>[4]</sup>

Nurse's research utilization (RU) is strongly emphasized in today's nursing education and clinical practice, the primary aim of research utilization is to provide high quality nursing care to patients. This knowledge might serve as useful input in planning future studies aiming to improve nurses', specifically newly graduated nurses' to research utilization.<sup>[5]</sup> Nurses in healthcare organizations should use research findings to assess their skills, develop and implement policies

and procedures, and perform effective clinical interventions to provide care plan to improve positive outcomes for patients.<sup>[6,7]</sup>

Studies showed that some of the reported barriers to research utilization are insufficient authority to change practice, time constraints, lack of resources, research findings are not generalizable to own clinical settings and unavailability of research findings.<sup>[8,9,10]</sup> Of these barriers studies, a quite prominent study was done by Funk et al. in 1991<sup>[11]</sup>, which grouped barriers to research utilization into four categories: characteristics of the research, setting, communication, and nurse.

Facilitators are activities, motivation and support that make research and its utilization easier to practice in a practical scenario. Nurses who participate in research related projects promote research utilization and are more likely to apply research in practice.<sup>[12]</sup> Nurses who understand the importance of EBP might act as mentors to colleagues who are unaware of its potential impact on practice or the range of information available. Further, nurses can collaborate to promote research utilization in the workplace. Peer mentoring and coaching are effective strategies for assisting colleagues to search for, evaluate, and apply information.<sup>[13]</sup>

Nursing students are going to be the full time registered nurses so their perception can be assessed in order to develop insight regarding research conduction and utilization among them. Research utilization is crucial to preparing the next generation of registered nurses, since they are expected to stay abreast of research, read and use existing research to improve their ability to solve problems. The current study was undertaken with the aim to examine perceptions of barriers and facilitators regarding research utilization among nursing students.

### METHODS

#### Subject and setting

A descriptive survey was conducted on 176 nursing students who studying in B.Sc. Nursing (4<sup>th</sup> year) and M.Sc. Nursing (1<sup>st</sup> & 2<sup>nd</sup> year) and has studied nursing research as a subject in undergraduate and

postgraduate curriculum. Nursing students were selected by using total enumeration sampling technique from nursing colleges of selected university, Ambala, Haryana, India. This study was approved by the institutional ethical committee (IEC-977) of Maharishi Markandeshwar (Deemed to be University) Mullana, Ambala, Haryana.

**Instrument and data collection:**

Questionnaire was divided into three sections:

**Part 1:** Selected variables consist of total 8 items i.e. age in years, gender, course of study, year of studying, research experience, if yes, then specify experience in years, knowledge on evidence-based nursing, attended any conference, workshop, in-service education programme regarding research methodology/ research utilization if yes, then specify how many, access to internet facility at college/ institute. Selected variables were selected based on the review of literature.

**Part 2:** Structured attitude scale was prepared based on extensive review of literature and seeking the opinion of experts.<sup>[14]</sup> It consisted of 24 items on which the respondent had to respond on 5- points Likert's scale. Items were designed to assess the attitude of Nursing Students regarding Research Utilization.. Attitude was categorized as favourable (76-100%), moderately favourable (51-75%) and unfavourable attitude (0-50%). Content validity index of the tool was 0.75. Reliability was calculated by Cronbach alpha and was 0.71.

**Part 3:** BARRIERS Scale is a standardised tool developed by Funk et. al in 1991 and permission from the author was taken prior the study. It consisted of 29 items divided in four subscales i.e. nurse subscale (characteristics of the adopter: the nurse's research values, skills, and awareness), organization subscale (characteristics of the organization: setting, barriers and limitations), presentation subscale ( characteristics of the communication: presentation and accessibility of the research) and research subscale (characteristics of the innovation: qualities of the research); on which the respondent had to respond on 4- points scale. In addition to rating the barrier items, respondents were invited to add and score other possible barriers, to rank the three greatest barriers, and to list factors they perceive as facilitators of research utilization. Content validity index of the tool was 0.92. Reliability was calculated by Cronbach alpha and was 0.89.

**Data collection technique:**

Data from 176 Nursing Students who met the inclusion criteria was collected using self reported (paper-pencil) technique. Duration of data collection for each student was 45 min to 60 min.

**RESULTS**

Data were analyzed using SPSS-16.

**Description of the participants:**

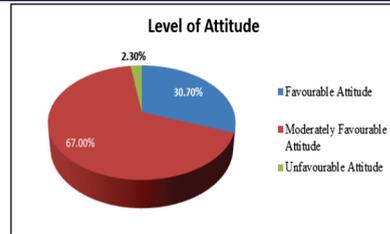
Among 176 participants, the gender of participants was predominantly female (88.6%) with the mean age of 21.7±2.6 years. Two third (68.2%) nursing students were studying in B.Sc. 4th year. All (100%) of nursing students were having research experience in B.Sc. nursing 3rd year as per curriculum by INC. Most (73.9%) of the nursing students were having research experience of 1 year or less. The majority (96.6%) of nursing students were having knowledge about evidence-based practice. Most (79.5%) of nursing students had not attended any workshop, conference/ in-service education program regarding research methodology & utilization. The majority (94.3%) of the participants were having access to internet facility at college/ institute.

**Attitude regarding research utilization**

Nearly two-third (67%) of nursing students had moderately favourable attitude regarding research utilization, followed by one third (30.7%) had favourable attitude regarding research utilization and only 2.3% of nursing students had an unfavourable attitude regarding research utilization, showed that nursing students were having a moderately favourable attitude. (Figure 1).

**Barriers towards research utilization**

Scores of the setting subscale were the highest and scores of the nurse the lowest, indicating that barriers related to the setting were the most influential in research utilization. The rank order and percentage of items perceived as moderate or great barrier are summarized in Table 1.



**Figure 1: Percentage Distribution of Nursing Students according to Level of Attitude regarding Research Utilization**

**Table- 1 Rank Order of Barriers regarding Research Utilization N=176**

Barriers	Subscale	Ranking items as a moderate & great barrier f (%)	Rank
There is insufficient time to implement new ideas	Setting	119(67.6)	1
There is not a documented need to change practice	Nurse	116(65.9)	2
The facilities are inadequate for implementation	Setting	110(62.5)	3
The nurse does not feel she/he has enough authority to change patient care procedures	Setting	109(61.9)	4
Research reports/articles are not published fast enough	Research	107(60.8)	5
Implications for practice are not made clear	Presentation	104(59.1)	6*
Physicians will not cooperate with implementation	Setting	104(59.1)	6*
The nurse does not have time to read research	Setting	104(59.1)	6*
The nurse feels results are not generalizable to own setting	Setting	102(58.0)	9*
Other staff are not supportive of implementation	Setting	102(58.0)	9*
Administration will not allow implementation	Setting	100(56.8)	11
The nurse does not feel capable of evaluating the quality of the research	Nurse	98(55.7)	12
The nurse feels the benefits of changing practice will be minimal	Nurse	94(53.4)	13
The nurse is isolated from knowledgeable colleagues with whom to discuss the research	Nurse	92(52.3)	14
The nurse sees little benefit for self	Nurse	90(51.1)	15*
Research reports/articles are not readily available	Presentation	90(51.1)	15*
The nurse is unwilling to change/try new ideas	Nurse	89(50.6)	17
The research has not been replicated	Research	85(48.3)	18
The amount of research information is overwhelming	Presentation	84(47.7)	19
The literature reports conflicting results	Research	83(47.2)	20*
The nurse is uncertain whether to believe the results of the research	Research	83(47.2)	20*
The research has methodological inadequacies	Research	80(45.5)	22*
The relevant literature is not compiled in one place	Presentation	80(45.5)	22*
The nurse does not see the value of research for practice	Nurse	80(45.5)	22*

The research is not reported clearly and readably	Presentation	79(44.9)	25
The statistical analyses are not understandable	Presentation	78(44.3)	26
The conclusions drawn from the research are not justified	Research	75(42.6)	27
The research is not relevant to the nurse's practice	Presentation	65(36.9)	28
The nurse is unaware of the research	Nurse	63(35.8)	29

\* ranks are repeated

Top three greatest barriers were identified insufficient time to implement new ideas (67.6%), non- documented need to change practice (65.9%) and inadequate facilities for implementation (62.5%). Interestingly, the top barrier in rank order of items perceived as moderate or great barrier was same as greatest barriers identified by nursing students i.e. insufficient time to implement new ideas. Further to the barriers items, participants identified additional barriers, including lack of research knowledge (8.5%), no financial support (4.5%), perception that research is wastage of time (3.4%) and lack of interest (2.8%).

### Facilitators regarding research utilization

The top three facilitators identified were advancing education to increase research knowledge base (32.95%), increasing the time availability for reviewing and implementing (18.18%) and improving availability and accessibility of research reports and timely publication (15.90%). (Table 2)

**Table 2: Frequency and Percentage Distribution of Facilitators regarding Research Utilization among Nursing Students N= 176**

S.No.	Facilitator items	Frequency f (%)
1.	Advancing education to increase research knowledge base	58 (32.95)
2.	Increasing the time availability for reviewing and implementing	32 (18.18)
3.	Improving availability and accessibility of research reports and timely publication	28 (15.90)
4.	Enhancing administrative support	27 (15.34)
5.	Guidance/ Mentoring of others who have done research utilization	25 (14.20)
6.	Proper implementation of new ideas and Evidence-Based Practices	22 (12.5)
7.	Interest towards research utilization	17 (9.65)
8.	Colleague support and motivation	16 (9.09)
9.	Rewards/ incentives to advance the practices	13 (7.38)
10.	Adequate facilities and equipments	12 (6.81)
11.	Provide authority to implement and change practices	10 (5.68)

## DISCUSSION

### Attitude regarding research utilization

The study results revealed that two third (67%) of nursing students had moderately favourable attitude regarding research utilization whereas 2.3% of nursing students had unfavourable attitude regarding research utilization and all (100%) had conducted research study. These findings were inconsistent with the findings of study conducted by Ertuğ N et al<sup>[15]</sup> to determine undergraduate nursing students' research activities and utilization in which the most of the students (84.3%) were willing to participate in research studies, only 4.2% had conducted a research study. It could be because as per INC (Indian Nursing Council) curriculum it is mandatory to conduct research project in both undergraduate and postgraduate courses.

### Barriers related to the setting subscale were the most influential

The study findings showed that the most of the barriers were from setting subscale (mean=21.59±4.88). It is consistent with the findings of the was study conducted by A. Bostrom et al<sup>[16]</sup> on clinical nurses in which most prominent barriers were found in the subscales Setting and also by Chien. W et al<sup>[17]</sup> where results revealed that out of 10 top ranked barriers items 6 were from organisation (setting) subscale. The importance of organizational support for research utilization should be reinforced by establishing innovative strategies and sufficient resources and facilities for research implementation such as setting up centers for research and evidence-based practice, clearly defined

guidelines for research implementation and utilization in educational as well as in clinical areas and more opportunities for nursing research training.

### Barriers and facilitators regarding research utilization

In current findings top three barriers identified by nursing students were : 67.6% nursing students reported insufficient time to implement new ideas, there are not a documented need to change practice (65.9%) and the facilities are inadequate for implementation (62.5%) were identified as top three greatest barriers. These findings were consistent with the study findings conducted by Lau. R et al<sup>[18]</sup> which revealed that top most barriers that prevent nurses from implementing research findings include were lack of authority to change practice (72.1%), inadequate facilities (69.9%) and time constraints (62.4%).

In present study, insufficient time to implement new ideas (67.6%) was top most barriers and advancing education to increase knowledge base (32.9 %) was top most facilitator. Similar findings were reported by the study conducted by Wang. L. et al<sup>[19]</sup> where findings reported that unavailability of time (13.4%) was one of the top three barriers and advancing education to augment knowledge base (21.1%) was one of the top three facilitators.

Further findings reveals that majority (96.6%) of the participants were having knowledge about evidence based practice. These findings were consistent with the findings of the study conducted by Kyalo Mutisya. A et al<sup>[20]</sup> to assess research utilization by nurses and the influencing factors at Kenyatta National Hospital (KNH), the largest teaching hospital in Kenya which reported two third (70.5%) of nurses gained knowledge about evidence based practice during their study in Nursing school as Evidence- Based Practice has been added as a part of nursing curriculum.

## CONCLUSION

The findings of the present study showed that the nursing students had varied perception regarding research utilization. Most of the participants were having moderately favourable attitude regarding research utilization but expressed barriers faced in utilizing research into practice such as insufficient time to implement new ideas, inadequate facilities and resources, lack of authority and lack of time to read research. The setting-related barriers were found to be most influential. Advancing education, increasing time availability and enhancing administrative support were greatest facilitators to improve research utilization among nursing students. Therefore, nursing students should be encouraged and supported to utilize research findings in their practice settings by providing them sufficient time and knowledge to implement new ideas and should be supported by administration.

### Conflict Of Interests

The researcher declares that there is no conflict of interests regarding the publication of this paper.

### Acknowledgement

The researcher would like to thank the research coordinators and nursing students who agreed to participate in this research.

### Funding

No funds received.

## REFERENCES

1. Polit F Denise, Beck Tanto Cherly. Nursing Research: Generating and assessing evidence for Nursing Research. 9th edition. New Delhi: Wolters Kluwer (India) pvt ltd 2013
2. Veeramah V. Utilization of research findings by graduate nurses and midwives. Journal of Advanced Nursing.2004;47(2):183- 191.
3. Parahoo K. Barriers to, and facilitators of, research utilization among nurses in Northern Ireland. J Adv Nurs, 2000; 31: 89- 98
4. Salsali M, Mehrdad N. Iranian nurses: constraint for research utilization. 2009;11:1-11.
5. Forsman, H., Rudman, A. Gustavsson, P., Ehrenberg, A., Wallin, L., Nurses' research utilization two years after graduation, a national survey of associated individual, organizational, and educational factors. Implementation Science.2012; 7:46.
6. Kajermo, KN, Undén, M., Gardulf, A., Eriksson LE, Orton ML, Arnetz BB, et al. Predictors of nurses' perceptions of barriers to research utilization. J Nurs Manag.2008; 16(3): 305-314.
7. International Council of Nurses ICN. Position Statement on Nursing Research.2007
8. Yava A, Tosun N, Çiçek H, Yavan T, Terakye G, Hatipoğlu S. Nurses Perceptions of the barriers to and facilitators of research utilization in Turkey. Applied Nursing Research 2009; 22(3): 166-75.
9. Patiraki E, Chrysoula K, Despina P, Ageliki S, Chrysoula K, Elpidia B, Anastasios M. Barriers in implementing research findings in cancer care: the Greek registered nurses perceptions. European Journal of Oncology Nursing 2004, 8 (3), 245-56.
10. Carrion M, Woods P, Ian Norman. Barriers to research utilization among forensic mental health nurses. Int J Nurs Stud 2004; 41 (6): 613-9.
11. Funk SG, Champagne MT, Wiese RA, Tomquist EM. Barriers: the barriers to research utilization scale. Appl Nurs Res.1991; 4: 39-45. doi:10.1016/S0897-1897(05)80052-7. PubMed: 1741634
12. Bostrom J, Suter WN. Research utilization: making the link to practice. J Nurs Staff Dev

- 1993;9:28–34.
13. Royle JA, Blythe J, Boblin Cummings S, et al. *Nursing for the Twenty First Century: Using Information Technology to Enhance Nursing Practice*. Hamilton, Ontario: Memaster University, 1997.
  14. Wangenstein S. *Newly graduated nurses' perception of competence, critical thinking and research utilization*. 2010.
  15. Ertu N. *Undergraduate Nursing Students ' Research Activities and Utilization : A Turkish Sample*. 14:251–60.
  16. Boström A-M, Kajermo KN, Nordström G, Wallin L. *Barriers to research utilization and research use among registered nurses working in the care of older people: Does the BARRIERS Scale discriminate between research users and non-research users on perceptions of barriers? Implement Sci Internet*. 2008;3(1):24. Available from: <http://implementationscience.biomedcentral.com/articles/10.1186/1748-5908-3-24>
  17. Chien W, Bai Q, Wong W, Wang H, Lu X. *Nurses 'Perceived Barriers to and Facilitators of Research Utilization in Mainland China : A Cross-Sectional Survey*. 2013;96–106.
  18. Lau R, Connor MO. *Original contribution and clinical investigation A survey of nurses' perceived barriers to research utilization in Bahrain in comparison to other countries*. 2012;(200).
  19. Wang LP, Jiang XL, Wang L, Wang GR, Bai YJ. *Barriers to and facilitators of research utilization: A survey of registered nurses in China*. PLoS One. 2013;8(11):1–9.
  20. Kyalo Mutisya A, Kagure Karani A, Kigundu C. *Research Utilization among Nurses at a Teaching Hospital in Kenya*. J Caring Sci [Internet]. 2015;4(2):95–104. Available from: [http://journals.tbzmed.ac.ir/JCS/Abstract/JCS\\_71\\_20150530135252](http://journals.tbzmed.ac.ir/JCS/Abstract/JCS_71_20150530135252).