

# Utilization of Research Evidences among Nursing Students-A Multicentred Study in India

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## Abstract

**Background-**Nursing services in present era thrives for quality patient care. To maintain the standard of professional practice and best quality care the student nurses need to be updated with recent research evidences. Evidence Based Practice (EBP) in nursing education is inevitable to keep up the pace with the technological advancement and standard nursing practices.

**Objectives-**The present study was designed with the objective to assess the level of utilization of research evidences among nursing students, to find the association of selected variables with the S-EBPQ scores, to compare the mean score of S-EBPQ among the different groups of nursing students and to analyse the low response items(score 1-2) of SEBPQ.

**Methodology-**The present study is a multi-centred cross-sectional descriptive design conducted among nursing students(n=276) of selected College of Nursing of India through an online survey. Data collection tool was a standardised self-administered questionnaire of SEBPQ (Students Evidence Based Practice Questionnaire by P Upton, D R Upton & S Evans,2015) consisting of 21 items in four subscales. Statistical analysis was done by SPSS-24 software in the form of mean, standard deviation, frequency, percentage and ANOVA test.

**Result-**Present study revealed that the total mean score of SEBPQ was  $3.89 \pm 1.22$ , practice score was  $3.35 \pm 1.53$ , attitude score was  $4.41 \pm 1.78$ , knowledge/skill score was  $3.77 \pm 1.35$  and communication of research score was  $4.06 \pm 1.48$ . The utilization of research evidences were high among 31.52% nursing students, moderate among 54.35% and low among 14.13% of nursing students. The negative response analysis for all items revealed that the student nurses had lower utilization of evidences related to lack of critically appraising the evidences (48.2%), tracking down the evidences (45.28%), integrating the evidences with practice (44.6%) and difficulty in formulating clearly answerable research question (41%). There was a statistically significant association between the S-EBPQ score and the place of residence (p value of 0.000018) however there was no association found for the age, education level, marital status, years of experience, speciality and designation of nursing students.

**Conclusion-**The study concluded that the nursing students have moderately high utilization of EBP, positive attitude towards research utilization and communication, however institutional support and revised nursing curriculum with emphasis on EBP would be necessary to make nursing students more research oriented and updated.

**Key Words:** EBP, Nursing Students, S-EBPQ

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## Introduction

Nursing profession has evolved in a great way globally. The traditional role of a nurse as a physician's

associate had a limited scope to explore, initiate, design or invent various patient care related services and challenge the set practices.<sup>1</sup> The EBP movement started in 1990s has promoted and supported to generate the various evidence, utilization of those evidences in clinical practice and filling the gap in knowledge through experimentation. The Profession of Nursing also encouraged the practitioners to adopt, generate and disseminate various research evidences which ultimately contributes to quality patient care.

The student nurses are the future of the profession of nursing. The right attitude and knowledge regarding EBP will encourage more recent and advanced nursing care practices which in turn directly attribute towards best patient care services and client satisfaction.<sup>2</sup> To inculcate the habit of reviewing recent evidences, research work and to challenge various contemporary practices various activities such as journal club, reviewing articles, research projects and workshops are organized across the country. Even after two decades of EBP movements it was realized that nursing practices are not able to create enough evidences to improve the practice and even though the evidences are there they are not communicated to the other members of the profession and thus remain underutilized.<sup>3</sup> Various studies on EBP was conducted as KAP studies along with the barriers to EBP mostly focused on the clinical nursing practitioners. The focus of the present study was to assess the utilization of research evidences among the student nurses to identify the loopholes of EBP and to take measures to modify them.

The present study has the following objectives-

- (1) To identify the level of utilization of research evidences among nursing students of selected training institute of India.
- (2) To compare the mean value of S-EBPQ score among undergraduate, post basic and post-graduate nursing students.
- (3) To analyse the individual item response pattern of low performance category of SEBPQ score among nursing students.
- (4) To examine associations between specific demographic and professional variables with the

S-EBPQ score among nursing students.

## Material & Methods

A descriptive cross-sectional study was conducted among undergraduate, post basic and post graduate nursing students of selected college of nursing of Pune, Delhi, Kolkata and Lucknow city. Prior conducting the study Institutional permission as well as individual consent to participate in the study was taken. It was an online survey administered through Google forms. The accessible population for the study was almost 1000 nursing students from various nursing institute. We received total 276 responses including all categories of nursing students.

### Inclusion criteria:

1. Undergraduate nursing students of 3<sup>rd</sup> and 4<sup>th</sup> year of Nursing, PB BSc nursing students and Postgraduate nursing students
2. Nursing students who were aware about the concept of Evidence based practice.
3. Students who has the facility of smart phone and internet.

### Data collection tool-

The tool of data collection was a standardized self-administered questionnaire-Student-Evident Based Practice Questionnaire (SEBPQ)<sup>4</sup> designed by P Upton, D R Upton & S Evans, 2015 a modified version of EBPQ<sup>5</sup> tool by Upton & Upton 2006. The permission to utilize the tool was taken from the author through email. Along with the data of EBPQ, relevant socio-demographic and work-related data were collected through a semi structured questionnaire.

The students Evidence Based practice Questionnaire is a standardized tool that contains utilization of research evidences in patient care (6 items), attitude towards utilization of research (3 items), Skills for retrieving and reviewing the Evidence (7 items) and Sharing and Applying EBP (5 items). Each item has maximum score of 7 and minimum score of 1. The total maximum score of SEBPQ is 147 and minimum score is 21. The researchers considered score of 21-49 as low utilization of research evidences, score of 50-97 as moderate

utilization of research evidences and 98-147 as high utilization of research evidences for the present study.

### Sample size calculation & Sampling-

Accessible population was calculated as per the inclusion criteria, it was near 1000 nursing students of selected college of nursing. Calculated sample size was 278 nursing students considering 95% of confidence interval, 5% of margin of error and 50% of response distribution pattern. Purposive sampling was done and at the end of the study 276 samples were included for data analysis.

**Tool for data analysis-**The data was analysed by SPSS 24 version. The descriptive analysis of data was done by mean, standard deviation, percentage and frequency distribution table. The association of selected socio-demographic and work-related variables with the EBPQ utilisation score was done by one factor ANOVA test. The response pattern of item was analysed to assess the low performance area of tool to generate the information highlighting the areas for improving research utilization among nursing students. The score of 2 and below was considered as low performance score and a negative response for each item.

## Results

Analysis of data done by SPSS 24 version and findings are displayed in tabular and graphical presentation. The details are mentioned below.

Table 1 exhibits the comparison of mean score of SEBPQ scale and subscales among different groups of nursing students.

Figure 1 illustrates the graphical representation of data related to the level of utilization of research evidences among nursing students

Response pattern analysis was done for each item of S-EBPQ scale. The response considered negative if the score is 1-2. Based on this response pattern a graph was created to highlight the areas of low performance or negative response so that a module may be generated focusing on these areas to improve utilization of EBP. The researchers have focused on the selected items with more than 30% (n=89) of negative response to be considered for further planning of EBP training and workshops to make the nursing students more research oriented and updated. Figure The association of selected socio-demographic as well as work related variables with S-EBPQ score was analysed by one factor ANOVA test

Table 2 display the F ration and level of significance among various groups of nursing students. There was a statistically significant association between the S-EBPQ score and the place of residence of the nursing students (0.000018) however there was no statistically significant association was found for the age, education level, marital status, years of experience and designation of nursing students

**Table 1: Descriptive statistics of Mean scores and standard deviations of SEBPQ subscales by level of nursing education**

Nursing Students	EBPQ subscales (mean $\pm$ SD)				Total SEBPQ (mean $\pm$ SD)
	Practice	Attitude	Skill	Communication	
UG Students	3.079 $\pm$ 1.34	4.04 $\pm$ 1.78	3.42 $\pm$ 1.25	3.50 $\pm$ 1.24	3.51 $\pm$ 1.09
PB BSc Students	3.74 $\pm$ 1.75	5.21 $\pm$ 1.32	4.61 $\pm$ 1.15	5.47 $\pm$ 0.56	4.76 $\pm$ 0.77
MSc Students	4.81 $\pm$ 1.64	5.83 $\pm$ 1.31	5.06 $\pm$ 1.03	6.11 $\pm$ 0.65	5.45 $\pm$ 0.63

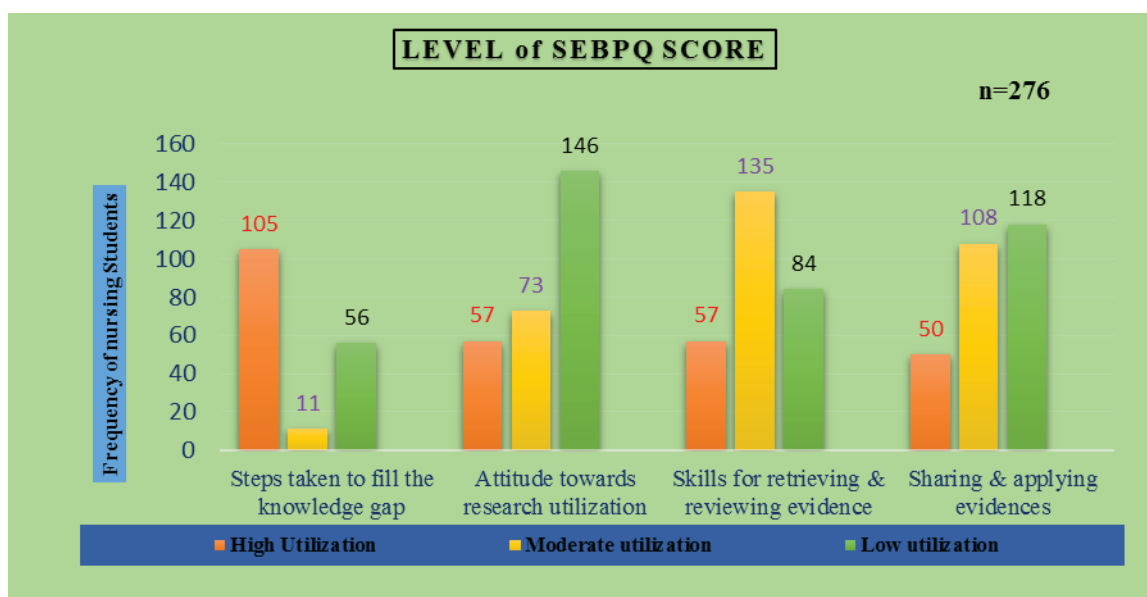


Figure 1: Bar Diagram- Distribution of Nursing Students as per the level of Utilization of EBP

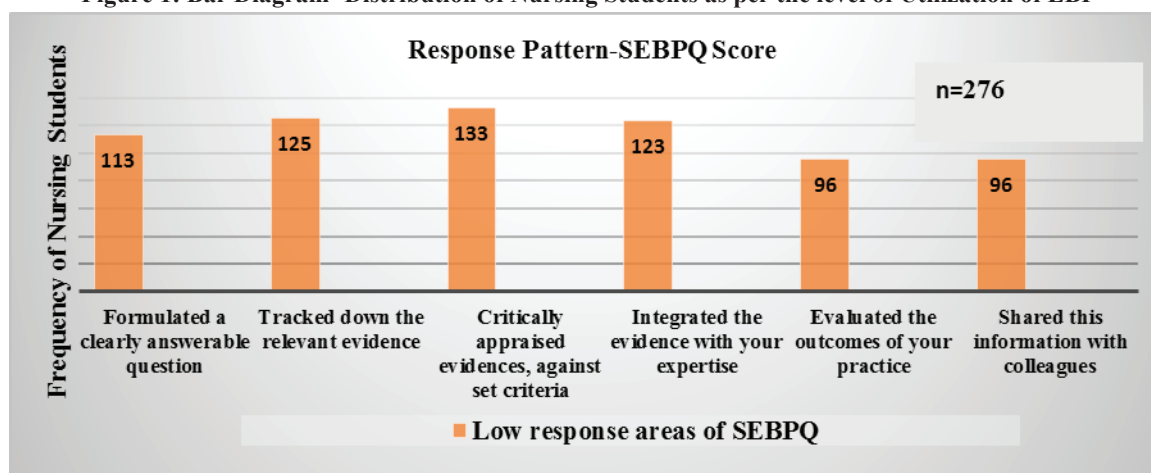


Figure 2: Distribution of Nursing students as per low response pattern in SEBPQ score

Table 2: Association of Selected Socio-demographic &amp; work-related variable with SEBPQ score by ANOVA test

Socio-demographic & Work- related variables	n	SEBPQ score	F Value	P Value
		Mean ±SD		
Age (Years)			0.506	0.679
<20	12	3.62±1.494		
20-30	231	3.88± 1.562		
30-40	30	4.10±0.639		
>40	03	3.90±3.885		
Education Level				
UG Nursing Students	206	3.86±1.622	0.439	0.645
PB BSc Nursing Students	44	3.96±0.975		
MSc Nursing Students	26	4.08±1.276		
Marital Status				

**Cont... Table 2: Association of Selected Socio-demographic & work-related variable with SEBPQ score by ANOVA test**

Unmarried	242	3.89± 1.553	0.129	0.878
Married	31	3.89± 1.004		
Divorced/Separated	3	4.25± 1.7343		
City of Present Residence				
Pune	168	4.13±1.334	8.59	0.000018
Lucknow	43	3.26±1.591		
Kolkata	34	4.01±1.170		
Delhi	31	3.37±1.469		
Years of Experience				
No experience	206	3.84± 1.617	1.931	0.105
<5 years	26	4.01± 1.613		
5-10 years	13	3.40± 0.652		
10-20 years	28	4.30± 0.683		
>20 years	3	4.82± 0.150		
Designation				
Trainee	209	3.85± 1.618	1.933	0.124
Senior sister	24	4.08± 0.909		
Ward sister	33	4.22± 0.804		
Matron	10	3.29± 1.774		

## Discussion

The present study explored the utilization of research evidence among nursing students, comparison of mean score of SEBPQ among different group of nursing students, response pattern analysis of items for negative response and the association of SEBPQ score with socio-demographic and work-related variables. The study was conducted among female nursing students pursuing undergraduate, post-basic and post graduate nursing courses from selected college of nursing of India. The study revealed

that most of the sample were graduate nurses (74.64%), unmarried (81.88%) and within the age group of 20-30(84.05%) years. Most of them were in general nursing practice (89.13%) followed by the psychiatric nursing (4.35%). Most of them were residence of Pune city followed by Lucknow, Kolkata and Delhi. Most of

them were under training with no independent clinical experiences.

The findings of present study were discussed in comparison with similar studies. A study conducted among Spanish and Latin-American nurses by **Amparo M et al**<sup>1</sup> revealed similar demographic distribution of sample. The majority of sample were female nurses (74.2%) with diploma in nursing (50.2%). A study by **Bashar J**<sup>6</sup> on use of EBP among Nurses Working in a Teaching Hospital in Kuala Lumpur in 2018 also had most of the female nurses (84.5%) and most of them were married (50%) which is in contrast with the present study.

In the present study mean score for utilization of research evidences were high among 31.52%, moderate utilization were there among 54.35% and low utilization of research evidence were there among 14.13% of



nursing students however study by **Bashar J**<sup>6</sup> reported 19.1% of poor utilization of EBP, 1.8% mid-range utilization of EBP and 79.1% had good utilization of EBP among student nurses.

**Carlton JB et al**<sup>7</sup> studied EBP among nurses in Qatar revealed that Application of EBP knowledge was found to increase with level of education and varied by clinical specialty which is in agreement with the present study where mean scores in all four subscale is higher among post graduate nursing students ( $5.45 \pm 0.63$ ), followed by Post basic students ( $4.76 \pm 0.77$ ) and undergraduate students ( $3.51 \pm 1.09$ ) probably encouragement to conduct more studies at post graduate level and referring the research evidence for best clinical practice may be the reason for higher score among post graduate nurses.

The present study also found that the undergraduate students had more positive attitude score ( $4.04 \pm 1.78$ ) towards EBP contributing to total score as compared to the knowledge, practice and communication of research which is a positive sign towards EBP, Post basic students as well as post graduate students had high communication of research score ( $5.47 \pm 0.56$ ) & ( $6.11 \pm 0.65$ ) contributing to total score of EBPQ indicating the scope for higher utilization of research evidences in nursing care practices.

**Zhou F et al**<sup>8</sup> reported that EBPQ total score was  $4.24 \pm 0.79$ , related to Practice score was  $4.08 \pm 1.05$ , Knowledge/skill score was  $4.17 \pm 0.84$  and attitude score of  $4.75 \pm 1.01$  however in present study total EBPQ score was  $3.89 \pm 1.218$ , related to practice score was  $3.35 \pm 1.53$ , related to attitude score was  $4.41 \pm 1.78$  and related to knowledge/skill score was  $3.77 \pm 1.35$ . Both of the studies show positive attitude of nurses towards research utilization. The comparative findings give us scope to improve EBP among nursing students.

Similarly **Al-Busaidi et al**<sup>9</sup> studied EBP among nurses in 2019 revealed that Overall, attitudes towards EBP had the highest mean score ( $5.5 \pm 1.2$ ) followed by knowledge/skills ( $4.9 \pm 0.8$ ) and practice ( $4.7 \pm 1.2$ ) subscales, the findings are similar with the present study.

The negative response analysis for all 21 items were done and negative score (1-2) by more than 30% of sample were considered for improving EBP among

students. In the present study the student nurses have lower utilization of evidences related to lack of critically appraising the evidences (48.2%), tracking down the evidences (45.28%), integrating the evidences with practice (44.6%) and difficulty in formulating clearly answerable research question (41%) however study by **Zhou F et al**<sup>8</sup> said that lack of Research skills (80.8%), inability to Critically analyse evidence against set standards (75.3%), not able to make time in a work schedule for research (72.8%) and inability to Critically appraising literature (75.2%) were the main hindrance of low utilization of EBP among student nurses. Based on these findings an EBP model may be developed to improve the utilization of research evidences among student nurses.

The association of selected socio demographic variables with EBPQ score revealed that there was statistically significant association between SEBPQ score and place of residence ( $p=0.000018$ ). The mean score of SEBPQ was high among 30-40 years of age ( $4.10 \pm 0.639$ ), post graduate students ( $4.08 \pm 1.276$ ) and nursing students with >20 years of clinical experience ( $4.82 \pm 0.150$ ) however there was no statistically significant association were found between these variables and SEBPQ score. There was no association found between marital status, specialization, designation of nursing students and SEBPQ score in the present study may be due to less representative samples from different speciality of nursing.

The researchers had meticulously planned and implemented the present study design but there were some limitations of the study too. The present study was a multicentred study, however the selection of institute was based on the approachability and administrative support of the concerned institutes. The study was limited to selected colleges of nursing of India due to administrative and financial constrain. The researchers could not include male student nurses in the study as all the nursing educational institute were for female candidates, due to above reasons the findings of the present study may not be generalisable to all nursing students of India. Since there may be a number of personal professional and social attributes supporting or hindering the EBP among nursing students which could not be covered by present study, it is recommended to

conduct a qualitative study on utilization of EBP among nursing students, it would be able to contribute more elaborate information towards evidenced based practice in Nursing.

### Conclusion

The evidenced based practice in nursing education is a matter of great concern and of significant importance. Inclusion of clinical nursing practices based on current evidences will make the professional practice more updated and client oriented as today's clientele is well informed as well as very much concerned about health. Evidence based practice can be integrated into nursing education in India by providing necessary administrative and technical supports to college of nursing, preparing nursing faculty with necessary skills in each step of evidenced based practice as well as curriculum development to support various learning activities contributing towards evidence generation, utilization and communication. Present study provides few baseline information regarding research utilization among nursing students may serve for further studies related to development of EBP modules for teaching students based on the response pattern of students highlighting the areas to focus on to improve EBP among nursing students.

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