

Effect of Self-Instructional Module (SIM) on Knowledge regarding Evidence-Based Nursing Practice among Staff Nurses Working in Selected Hospital at Jaipur

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"The first step towards knowledge is to know that we are ignorant." – Richard Cecil

Abstract

Health care professionals including doctors, nurses and paramedical staffs are, in some ways, the guardians of the community. Nursing relies on multiple ways of knowledge because it has close relationship with social, behavioural and biological sciences. It is the duty of the entire health care establishment to ensure speedy recovery of their patients by providing quality health care.

The past century has witnessed spectacular changes in the way we live and think. Human brilliance and technology have come together to propose solutions we dared not imagine 50 years ago. Many diseases have been conquered, millions of people have been saved from premature death and disability and the search for better solutions to healthcare is on (Kathurai, 2003).

Background of the study

Florence Nightingale would probably not recognised the nurse of today. As we move into the next millennium, we expect nurses to care with their hearts and minds; identify patients' actual and potential problems; and develop research-based strategies to prevent, ameliorate and comfort (Nightingale, 1946).

In today's complex and dynamic patient care environment, nursing interventions and process informed by the best evidence are vital to realising health care improvements and cost savings.

Empirical knowledge is essential to improve clinical practice. It has been the major focus of researchers since 1980. The generation and diffusion of empirical knowledge are expanding every day. With the current changes in the healthcare system, society is demanding more of nurses' involvement than ever before.

Nurses now have the attention of healthcare policy makers and can influence the future delivery system.

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Meeting policy makers expectations requires carrying out of high quality research and the use of those findings in practice (Santha, 2009).

Evidence-based Nursing Practice (EBNP) is the wave of the future. Increasingly, EBNP is being identified as the key to quality and excellence in nursing services. Incorporating evidence into practice is necessary to deliver scientifically sound patient care. Despite the growing popularity of EBNP and its benefits, there is only 15 percent of the nursing work force consistently practicing within the EBNP framework. If adoption is to increase in the profession, it will require the active efforts of nurses to increase their knowledge regarding evidence-based nursing practice (Shirey, 2006).

Objectives

The objectives of the study were:

1. To assess the existing knowledge of staff nurses regarding evidence-based nursing practice working in selected hospitals.
2. To develop, validate and administer Self Instructional Module (SIM).
3. To assess the effectiveness of Self Instructional Module.
4. To find an association of knowledge with their selected demographic variables like age, gender, experience, professional qualification etc.

Hypothesis

H1: There will be a significant difference between existing and post-test level scores of knowledge re-

Table 1: Reveal pre-test followed by intervention and post-test

Group	Pre-test	Intervention	Post-test
I	Assessment of knowledge before administering Self Instructional Module	Administration of Self Instructional Module	Assessment of knowledge after administering Self Instructional Module
	O1	X	O2

garding Evidence-Based Nursing Practice among staff nurses.

H2: There will be a significant association between the level of knowledge and selected demographic variables of staff nurses regarding Evidence Based Nursing Practice.

It was assumed that Evidence-Based Nursing Practice may improve the quality of patient care and the

Table 1: Frequency and percentage distribution of samples based on demographic variables (n=60)

S.No.	Demographic Variables	Frequency (f)	Percentage (%)
1	Gender		
	Male	25	41.66
	Female	35	58.33
2	Age		
	21-30 years	08	13.33
	31-40 years	26	43.33
	41-50 years	22	36.66
	51-60 years	04	06.66
3	Professional education		
	GNM	21	35.00
	Post Basic BSc Nursing	24	40.00
	BSc Nursing	08	13.33
	MSc Nursing	07	11.66
4	Area of working		
	General Ward	14	23.33
	ICU	08	13.33
	Surgical Ward	23	38.33
	OT	15	25.00
5	Professional experience		
	0-5 years	05	08.33
	6-10 years	07	11.66
	11-15 years	19	31.66
	16 years & above	29	48.33
6	Source of knowledge		
	Academic	37	61.66
	Workshop/ Seminar	06	10.00
	Newspaper	01	01.66
	Journal, Research Publications	16	26.66

nurse's confidence in nursing care and that the Self Instructional Module (SIM) may enhance the knowledge of staff nurses on Evidence-Based Nursing Practice.

The dependent variable of this study was the knowledge score of staff nurses of the SMS Hospital, Jaipur re-

garding the evidence-based nursing practice and independent variable was the effectiveness of Self Instructional Module regarding the Evidence-Based Nursing Practice.

The present study was focused on evaluating the effectiveness of SIM on EBNP among staff nurses. The selected conceptual framework in the present study was based on Context, Input, Process and Product modes by Stuffle Beam (1960). It consists of four steps namely- Context, Input, Process and Product evaluation, in which context refers to goal setting, input refers to information to be processed for the desired outcome, process refers to the method by which the input can be processed and product is released and product refers to the output.

The study was conducted in the months of July-August after obtaining the formal permission from the concerned authority.

Methodology

An evaluative research approach was adapted in order to assess the knowledge on evidence-based nursing practice among staff nurses in a selected hospital at Jaipur. The Self Instructional Module was developed based on the review of related research and on research literature.

A quasi-experimental design with one group pre-test post-test design was used to evaluate the effectiveness of SIM for the present study. The content validity of tool and SIM was established by five experts in the field of nursing. The pilot study was conducted on 35 items for its clarity, unambiguity, feasibility on similar subjects. The main study was carried out on 60 staff nurses at SMS Hospital, Jaipur by non-probability convenient sampling technique. A structured knowledge questionnaire was administered for data collection. The data included both descriptive and inferential statistics. The collected data was organised, tabulated and analysed based on the objectives of the study by using descriptive statistics ie, frequency and percentage, inferential statistics ie, Chi-square, 't' test and correlation coefficient. The paired 't' test was used to find out the difference between pre-test and post-test level of knowledge and the Chi-square was used to find out the association

Table 2: Distribution of subjects overall pre-test & post-test knowledge in evidence-based nursing practice (n=60)

Knowledge score	Pre-test		Post-test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
0-12 (Poor)	50	83.33	00	0
13-24 (Average)	10	16.66	42	70
25-35 (Good)	00	0	18	30
Total	60	100	60	100

Table 3: Overall Pre-test & Post-test Mean Knowledge Score of Respondents

Aspect	Statements	Pre-test mean	Pre-test SD	Post-test mean	Post-test SD	Mean difference	Paired t-test
Knowledge	35	10.55	2.927	21.90	4.110	11.35	3.824

t value at 5%: $t(59) = 3.824$; * Significant; $p < 0.05$; (*significant at 5% level)

between the demographic variables.

Results

The data were tabulated, analysed, organised and presented under the following headings.

Section I: It deals with the analysis of the demographic data of the samples like age, gender, experience, area of working, professional qualification, and source of knowledge.

Section II: It deals with the analysis of level of knowledge on Evidence-Based Nursing Practice among staff nurses.

Section III: Association between the level of knowl-

Table 4: Area-wise analysis of pre-test knowledge score of respondents regarding evidence based nursing practice

S.No.	Area	Maximum score	Mean score	Knowledge score % mean
1	Knowledge related to introduction of Evidence Based Nursing Practice	9	2.916	32.36
2	Knowledge related to importance of Evidence Based Nursing Practice	4	1.333	33.30
3	Knowledge related to steps of Evidence Based Nursing Practice	10	2.566	25.62
4	Knowledge related to sources and barriers to implement Evidence Based Nursing Practice	2	0.383	19.10
5	Knowledge related to key messages for Evidence Based Nursing Practice	3	0.716	23.80
6	Knowledge related to clinical applications to Evidence Based Nursing Practice	7	2.55	36.39

edge of staff nurses on evidence-based nursing practice and their selected variables (age, gender, experience, professional qualification, area of working and source of knowledge).

Table 1 shows that in the present study, out of 60 samples 13.33 percent respondents were in the age group of 21-30 years followed by 43.33 percent in the age group 31-40 years, 36.66 percent in the age group 41-50 years and 06.66 percent in the age group of 51-60 years; 41.66 percent respondents were male and 58.33 percent

female. Thirty percent respondents had completed GNM course, 13.33 percent completed BSc Nursing, 40 percent Post-Basic BSc Nursing and 11.66 percent had completed MSc Nursing. Also, 8.33 percent respondents had 0-5 years of experience,

11.66 percent had 6-10 years of experience, 31.66 percent had 11-15 years of experience and 48.33 percent of respondents had 16 years & above experience. 23.33 percent respondents were working in General Ward, 13.33 percent in ICU, 38.33 percent of respondents working in Surgical ward and 25 percent of respondents working in OT. Majority (61.66%) of the respondents had knowledge through academic education, 10 percent respondents had knowledge through workshops / seminars, and 1.66 percent had knowledge through newspapers whereas 26.66 percent respondents had knowledge through Journals / research publications.

Findings related to knowledge scores before and after administering the self-instructional module

Table 2 shows that the majority (83.33%) of staff nurses in pre-test had a poor knowledge score (0-12) and 16.66 percent of staff nurses had an average knowledge score (13-24) and none (0%) having good knowledge score (25-35) whereas in post-test the majority (70.00%) of staff nurses had an average knowledge score and 30 percent had good knowledge score.

Table 3 reveals the overall mean pre-test and post-test knowledge score of respondents. The overall mean knowledge score of pre-test found to be 10.55 and standard deviation of 2.927. The post-test knowledge scores have mean of 21.90 and standard deviation of 4.110. The mean enhancement score found to be 11.35. The statistical results established significant at 5 percent level ($t=3.824$) indicating the effectiveness of Self Instructional Module in enhancing the knowledge of respondents.

Table 4 and Fig 1 reveals area wise pre-test

Table 5: Area-wise analysis of post-test knowledge score of respondents regarding evidence-based nursing practice

S.No.	Area	Maximum score	Mean score	Knowledge Score (%) Mean
1	Knowledge related to introduction of Evidence-Based Nursing Practice	9	5.933	70.60
2	Knowledge related to importance of Evidence-Based Nursing Practice	4	2.30	57.45
3	Knowledge related to steps of Evidence-Based Nursing Practice	10	5.933	59.31
4	Knowledge related to sources and barriers to implement Evidence-Based Nursing Practice	2	0.966	48.30
5	Knowledge related to key messages for Evidence-Based Nursing Practice	3	1.75	58.26
6	Knowledge related to clinical applications to Evidence-Based Nursing Practice	7	5.00	71.30

steps 59.31 percent, with regard to sources & barrier 48.30 percent regard to messages 58.26 percent, and regard to clinical applications was 71.30 percent. Table 6 reveals that calculated value of t was more than the tabulated value at $p < 0.05$. Table 7 indicates the Chi-square calculated to find out the association between the knowledge scores and the demographic variables of the staff nurses

Reliability of the tool was established by using split half method for structured knowledge questionnaire and the result was $r = 0.84$.

The study revealed that the mean differences of the pre-test and post-test which is statistically significant at 0.001 levels. Hence it indicates a significant difference and effectiveness of Self Instructional Module in terms of

knowledge gain by the staff nurses and that the level of knowledge of post-test among staff nurses was higher than the pre-test. There was statistically no significant association between the knowledge and the age of the staff nurses

Table 6: Evaluating the effectiveness of SIM on knowledge regarding evidence based nursing practice

Content	Mean difference post-test-pre-test (y-x)	SD difference post-test-pre-test (y-x)	Calculated value of 't'	Table value of 't'	Level of significance
Knowledge regarding evidence-based nursing practice	11.35	1.183	3.824	1.645	Significant

mean knowledge score on evidence-based nursing practice. Score with regard to introduction was 32.36 percent, with regard to importance 33 percent, with regard to steps 25.62 percent, with regard to sources & barrier 19.10 percent regard to messages 23.80 percent, and with regard to clinical applications was 36.39 percent.

Table 5 and Fig 2 reveals area wise post-test mean knowledge score on evidence-based nursing practice. Score with regard to introduction was 70.60 percent, with regard to importance 57.45 percent, regard to

at ($p < 0.05$). It was observed that there is association between the knowledge and the professional qualification of the staff nurses ($p < 0.05$).

It was also found that there is no significant association between the knowledge and the year of experience and area of working ($p < 0.05$). A significant association was found between the knowledge and source of knowledge regarding evidence-based nursing practice ($p < 0.05$).

In post-test the majority (70%) of staff nurses had an average knowledge score and 30 percent had good knowledge score.

Association of level of knowledge scores with the selected demographic variables

The result reveals that there is no significant association between the age and knowledge scores, as the calculated χ^2 value (2.735) is lesser than table value (5.99) at $p < 0.05$. Hence, the research hypothesis H_2 is rejected. There is significant association between gender and knowledge scores, as the calculated χ^2 value (6.005) is greater than table value (3.84) at $p < 0.05$. Hence, the re-

Table 7: Abstract of chi-square result of demographic characteristics and knowledge regarding evidence based nursing practice

S.No.	Variables	df	Calculated χ^2 value	Tabulated χ^2 value	Level of significance
1	Gender	1	6.005	3.84	*S
2	Age	2	2.735	5.99	*NS
3	Professional Education	2	25.991	5.99	S
4	Area of Working	2	3.174	5.99	NS
5	Professional Experience	2	1.364	5.99	NS
6	Source of knowledge	2	12.755	5.99	S

*S - Significant; *NS - Not significant

Fig 1: Area wise pre-test mean knowledge score on evidence-based nursing practice

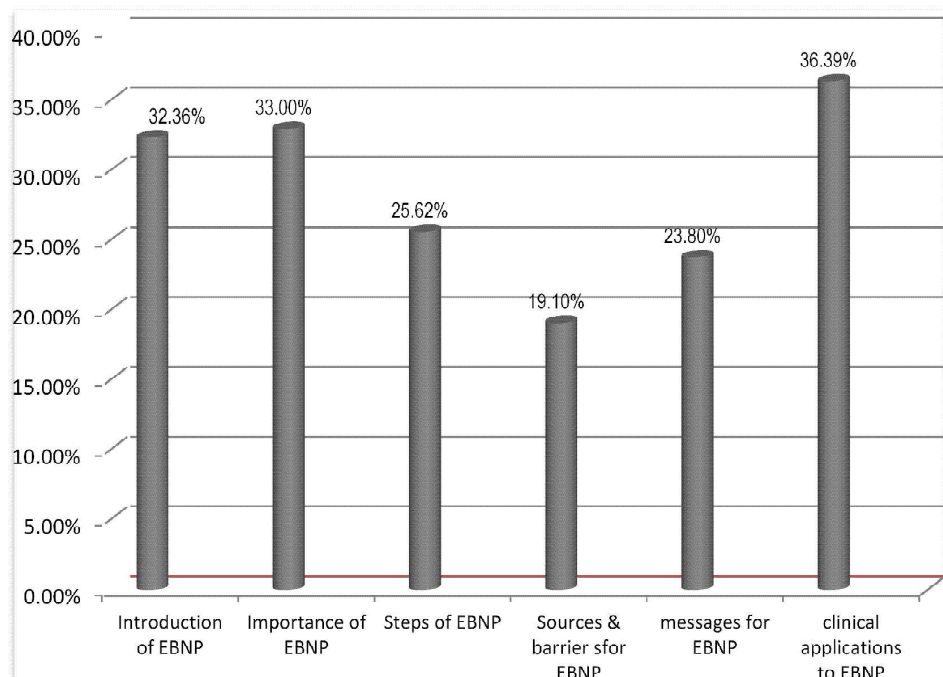
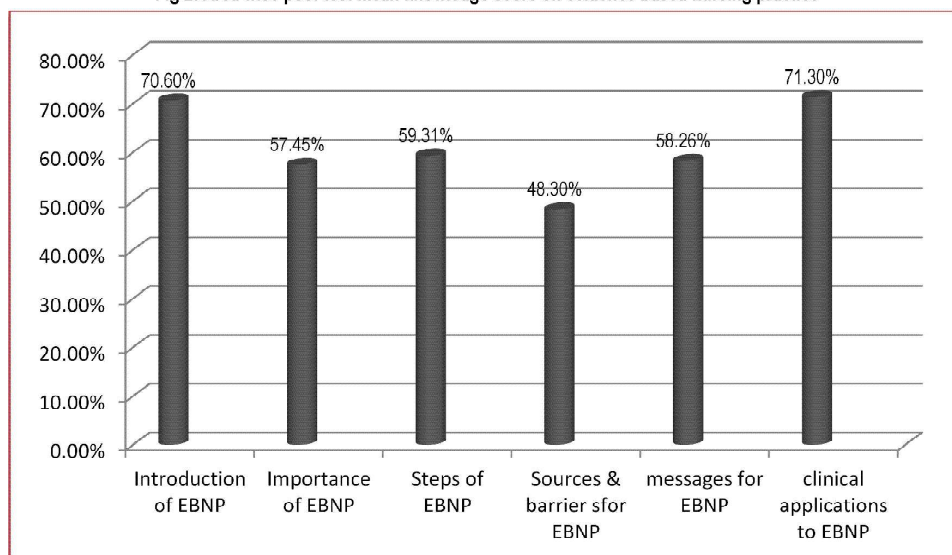


Fig 2: Area wise post-test mean knowledge score on evidence based nursing practice



search hypothesis H_2 is accepted.

There is significant association between professional education and knowledge scores, as the calculated χ^2 value (25.991) is greater than table value (5.99) at $p < 0.05$. Hence, the research hypothesis H_2 is accepted.

There is no significant association between area of working and knowledge scores, as the calculated χ^2 value (3.174) is lesser than table value (5.99) at $p < 0.05$. Hence, the research hypothesis H_2 is rejected.

There is no significant association between professional experience and knowledge scores, as the calculated χ^2 value (1.364) is lesser than table value (5.99) at $p < 0.05$. Hence, the research hypothesis

H_2 is rejected.

There is significant association between source of knowledge and knowledge scores, as the calculated χ^2 value (12.755) is greater than table value (5.99) at $p < 0.05$. Hence, the research hypothesis H_2 is accepted.

Recommendations

- ♦ A similar study may be replicated with a larger population.
- ♦ A comparative study can be conducted to assess the level of knowledge between government and private hospitals regarding evidence-based nursing practice.
- ♦ A survey to assess the knowledge, beliefs regarding evidence-based nursing practice may be undertaken.

♦ Similar study can be done to assess the knowledge, attitude and practice of evidence-based nursing practice among staff nurses.

♦ Similar study can be done to assess the effectiveness of Self Instructional Module on knowledge, regarding evidence-based nursing practice among staff nurses.

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