IMPACT OF EVIDENCE-BASED PRACTICES IN MEDICAL - SURGICAL NURSING

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ABSTRACT

The nursing profession has been influenced by medical advancements for a long time. Practice Based on Evidence (EBP) is one innovation that has influenced nursing throughout the world in the last and current decade. The main aim of the study is to Impact of Evidence-Based Practices In Medical - Surgical Nursing. Nurses' ability to educate and the quality of treatment they provide patients were both investigated in this chapter due to the research methodologies used to assess the Multilevel Integrated Training Programme in Evidence-Based Practice. The study's overarching goal was to determine how well the Multilevel Integrated Training Programme on EBP served its intended audiences nurse educators and clinical nurses—in terms of improving clinical practice and patient care.

Keywords: *Evidence-Based Practices, Medical, - Surgical, Nursing, Patients, etc.*

1. INTRODUCTION

The nursing profession has been influenced by medical advancements for a long time. Practice Based on Evidence (EBP) is one innovation that has had an effect on nursing throughout the world in the last and current decade. There has been a dramatic change from an emphasis on gut feelings to an evidence-based approach. More and more, nurses are seeing EBP, or evidence-based practice, to better serve patients. Nevertheless, every registered nurse faces the formidable obstacle of the evidence-practice divide. In order to enhance people's health, it is necessary so that nursing practice and the evidence may be better understood and communicated. When discussing clinical care problem-solving, the phrase "Evidence-Based Practice" (EBP) describes an approach that considers the patient's values and preferences, the clinician's skills, and the best available evidence from well-designed studies.

There was a shift in clinical practice forty years ago towards an interdisciplinary model known as evidence-based practice. It began in the medical area and eventually made its way to dental and nursing schools. According to Fineout-Overholt, Melnyk, and Schultz (2005), the medical profession was scolded in 1972 by In his groundbreaking study, Dr. Archie Cochrane "Effectiveness and Efficiency - Random Reflections on Health Services" for failing to assess research results to inform healthcare decision making. The Cochrane Collaboration was established in 1993 as a result of the revolutionary advances that followed. This was done in honour of Archie Cochrane, who made an exceptional effort to improve clinical research by creating systematic reviews and randomized controlled trials.

But advancements occurred at McMaster University in Canada in tandem with EBP's progress in the UK. In 1990, The first usage of the phrase "Evidence-Based Medicine" is attributed to the brochure for McMaster University's Internal Medicine Residency

Programme. The development of EBM is greatly indebted to the of Prof. David Sackett, who pioneered the critical assessment of research findings. The idea of EBM and the subsequent publishing of the EBM series were both proposed by Professor Gordon Guyatt, who was also instrumental in its development (Prasad, 2007). Both "principles of quantitative clinical reasoning" by Alvan Feinstein and "innovation in teaching critical appraisal" by David Sackett significantly aided in the development of EBM. The development of EBP, which is making a significant influence on modern healthcare, was made possible by a series of contributions from well-known individuals.

2. LITERATURE REVIEW

Gunalan, Shanmugam. (2021). The only scientific method that may increase the worth of healthcare facilities is evidence-based practice. Indian hospitals are battling to acquire critical funding, but this initiative will provide them with the right standards to use evidence-based practice. The information and communication technology (ICT) tool Mind Master served as the basis for this project's presentation, which served as a model for its eventual adoption in healthcare facilities.

Rangappa (2018) Integrating state-of-the-art studies that combine clinical experience is the foundation of evidence-based practice (EBP), which aims to improve clinical decision making. Results are better for people who get treatments backed by evidence. When choosing a career path, medical students should pay careful attention to the growing field in the field of medicine that is grounded on scientific data. Both first-year and second-year medical school students school in North Madhya Pradesh were the subjects of this survey meant to gauge their familiarity with, and stance on, evidence-based practice. Methods: This cross-sectional research was place at a North Madhya Pradesh medical college from November 2016 to January 2017, after receiving ethical approval from the institution's ethics council. The research includes all undergraduate and graduate students at the College. An already-made semi-structured survey was used to gather data once informed permission had been obtained. Using Microsoft Excel, data was collected, organized, and analyzed. Findings: Most people are on board with evidence-based practice (EBP), but they don't know enough to put it into practice. Time constraints and financial constraints are the primary obstacles to adopting evidence-based practice (EBP). Ultimately, the use of proof-based methods (EBP) deserves more attention from medical schools; this might take the form of seminars or ongoing medical education; alternatively, it might be included into the course outline to ensure that all first-year medical students are taught about it.

D'Souza (2014) Worldwide, cervical cancer ranks fifth in terms of cancer-related deaths, while in India, it ranks second. Presently, India accounts for a quarter of all cervical cancer cases globally. Cervical cancer has been on the decrease in industrialized nations, but it remains a big issue in underdeveloped nations like India where screening is not standard practice for women. Examining participants' knowledge of cervical cancer, its symptoms, Pap (Papanicolaou) smear screening, and current screening practices was the main objective of this study recommendations. A total of 407 women, ranging in age from 21 to 65, from the randomly chosen Madhya Pradesh hamlet of Udupi taluk participated in the poll that takes place throughout time. Methods for data collection included a reliable knowledge survey.

Results: Nearly all of the participants in the survey had little understanding of the importance of cervical cancer screening (98.5%, 401). Across all The mean and standard deviation of the knowledge scores did not show any noticeable difference among the categories of cervical cancer (2.49±1.665), symptoms (0.43±0.496), Pap smear test (0.33±0.807), and screening suggestions (0.51±0.742). When it comes to cervical cancer screening, women have a very limited understanding. For India's cervical cancer screening initiative to be a success, there has to be effective education for women and mass screening.

Neyroud, Peter. (2021). An international trend has emerged: evidence-based policing, or EBP. Some people associate EBP with conducting experiments on police interventions. Although EBP has evolved into an applied management strategy, this is an oversimplified view of it. Using three distinct case studies—the worldwide adoption of community policing, police reform in India via the implementation of an evidence-based practice (EBP) approach, the testing and dissemination of diversion models driven by police—this chapter examines the obstacles of globalizing EBP. With an eye on extracting lessons as it pertains to the expansion of EBP in the future, studies are crafted and examined through the prism of Bayley's framework for police reform and Rogers' model of innovation diffusion.

Panhale (2017) When clinicians make decisions based on the best available data, this is known as evidence-based practice (EBP). A dedication to evidence-based practice and research has been made clear by the physiotherapy profession. But how much evidence-based practice (EBP) is really taught in Indian physiotherapy programmes remains a mystery. Finding out how physiotherapy programmes in India include EBP was the driving force for this research. Methods A data abstraction sheet was used to assess the physical therapy undergraduate and graduate programmes at all Health Science Universities (HSU) in India as part of an observational research. Assessment strategies, EBP course material and hours taught, and the incorporation of EBP research into curricula were all factors tracked. A descriptive analysis was conducted on the data. Final Product The physiotherapy programme curricula of fifteen different HSUs were examined. From the second to the last year, we included EBP-related content. Clinical management issues (57.14%), research projects (69.23%), and research methods (84.61%) were among the most popular courses. There were no recommendations on how to implement EBP in healthcare settings. Most of the lessons were delivered via didactic lectures (81.81%). The viva was chosen by 44.44% of respondents as the best way to evaluate research projects. At the entry level, critical evaluation was the least covered topic. All five stages of evidence-based practice (EBP) were covered in PG courses. Final thoughts Physiotherapy programmes are beginning to include evidence-based practice (EBP) instruction in their entry-level curricula; however, this instruction is disjointed and unorganized. Teaching EBP and evaluation procedures with a clinical orientation is underemphasized. Also, evidence-based practice (EBP) subject is well covered in PG curricula.

3. METHODOLOGY

Nurses' ability to educate and the quality of treatment they provide patients were both investigated in this chapter due to the research methodologies used to assess the Multilevel Integrated Training Programme in Evidence-Based Practice. Research methodology include

the following: research design, context, randomization procedure, outcome metrics, data gathering method, data analysis strategy, and results from the pilot project. The following standards were followed for the reporting of the methods utilized in this study: Expanding the Consort statement to include randomized trials of non-pharmacologic therapies (Campbell, 2008) and cluster randomized studies (Campbell, 2012) are two applications of the Consort statement from 2010. This study used two different research methods and three different groups of participants: academic One environment is occupied by clinical nurses, while the other is home to nurse educators and postgraduate nursing students. The research took place in both academic and clinical settings.

3.1 RESEARCH DESIGN

Emma Marsden found that in the instance of pre- and post-test research designs involving a single group, there are two illustrative aspects that impact the evaluative investigations. Both the test effect and regression to the mean (RTM) are part of the research. The first example is based on a data reanalysis that compares pre- and post-test scores to show how regression to the mean affects the results. The second example is based on a study design revision that examines the relationship between intervention and outcome using pre- and post-test scores from a single group. Half of the research used an experimental design, and even more surprisingly, it was a pre- and post-test design with a single group. A large number of research were assessment studies, including over 490 review articles. The study found that the researcher could have described the study's results more correctly and simply if they had used an experimental design (pre-experimental).

3.2 VARIABLES UNDER STUDY

Just as the name suggests, variables may take on a variety of forms. Things or circumstances that may alter or vary are sometimes referred to as variables. Age, blood type, health views, and other intrinsic traits are common examples of variables. The researcher may need to make up variables in order to carry out some aspects of the study correctly.

4. RESULTS

4.1 Sample Characteristics
Sample characteristics of nurse educators
Below, we compare the two groups of nurse educators based on their age, years of experience, professional qualifications, and previous participation in an EBP program to see whether their sample characteristics were similar. Two groups were compared: the control group and the experimental group.

Table 4.1 Biometric inputs and demographic factors of B.S.N. students, including frequency and percentage distribution.

SL.N.	Demographic variables	Frequency	Percentage (%)
1.	Age in years		
	a. 21 years	81	40.7
	b. 22 years	61	30.5
	c. 23 years	41	20.3
	d. 24 years and above	17	8.5
2.	Gender		
	a. Male	95	47.3
	b. Female	105	52.7
3.	Religion		
	a. Hindu	75	37.7
	b. Muslim	46	22.8
	c. Christian	79	39.5
4.	Previous source of knowledge		
	a. Mass media	97	48.5
	b. Health personnel	55	27.5
	c. Internet	48	24.0
5.	Seminar/ conference attended in last 12 months		
	a. Six month before	40	20.0
	b. 12 months before	43	21.7
	c. Not at all	117	58.3
6	Awareness on evidence-based practice in nursing		
	Yes	109	54.3
	No	91	45.7
7	Implementing the evidence-based practice in clinical setting		
	Yes	14	7.0
	No	186	93.0

Table 4.1 displays data from 200 B.S.N. students based on the bio-characteristics inputs. The bio-characteristic inputs include the following: gender, age, religion, previous knowledge source, seminars/conferences attended in the last year, familiarity with evidence-based practice in nursing, and its usage in clinical settings. Of the 200 students surveyed, 81 fall between the 21–23 age range, 61 between the 22–24 age range, 41 between the 23–24 age range, and 17 beyond the 24-year-old mark. The student body was made up of 105 females and 95 males. Out of the total number of students, 75 belonged to the Hindu faith, 46 to Islam, and 79 to Christianity. Out of the students who had previously identified their sources of information, 97 had obtained their basic knowledge from news articles, 55 from doctors and nurses, and 48 from the internet. The results show that forty students were unable to make it to the conference or seminar, forty-three attended within the last six months, one hundred and seventy-seven attended between six and twelve months ago, and zero students never showed up. The term "evidence-based practice" in nursing was foreign to 91 of the 109

students. Finally, out of 186 students surveyed, only 14 were in favor of using evidence-based practice in clinical settings.

4.2 Nurse educators' pedagogical outcomes as a result of the Multilevel Integrated Training Program in Evidence-Based Practice (MITP-EBP)

Statistics used for analysis

Mixed Linear Multilevel Modelling was necessary for statistical analysis of the combined information gathered from both pre- and post-licensure nurses (tables 4.2 and 4.3).

Table 4.2 Clustered Nature of Data of Nurse Educators

Groups	Cluster (Nursing departments)	Measurement time line		
		Pre-test (n)	Post-test 1 (n)	Post-test 2 (n)
Experimental	FON	8	8	8
	OBG	7	7	7
	MSN	12	12	11
Control	CHN	7	7	6
	CN	10	10	6
	PN	7	7	6

Table 4.3 Clustered Nature of Data of Postgraduate Nursing Students

Groups	Cluster (specialty)	Measurement time line	
		Pre-test (n)	Post-test (n)
Experimental	OBG 1	8	8
	OBG 2	7	7
	MSN 1	6	6
	MSN 2	6	6
Control	CHN 1	8	8
	CHN 2	8	8
	CN 1	6	6
	CN 2	8	8
	PN 1	7	7
	PN 2	8	8

The number of levels considered for each element in the model is shown in Table 4.4 for both fixed and random effects. Reviewing the model's dimension table may help us confirm that it is considering all the variables we want to analyze.

Table 4.4 Multilevel Mixed Linear Model Dimension

		Number of Levels	Covariance Structure	Number of Parameters
Fixed Effects	Intercept	1	-	1
	group	2	-	1
	Index1	3	-	2
	group * Index1	6	-	2
Random Effects	id + spalty[a]	57	Variance Components	2
Residual		-	-	1
Total		69	-	9

Type III Tests of Fixed Effects

Same as with analysis of variance (ANOVA), regression (regression), or analysis of covariance (ANCOVA), fixed effects in a mixed model are assessed.

Each fixed effect in the model is subjected to distribution and F statistics before the fixed effects output is subjected to an analysis of variance (ANOVA) test. It gives a thorough analysis of the intervention's effectiveness in taking into account all time points, the experimental group was compared to the control group. When comparing the efficacy of the intervention between the control and experimental groups, this research makes use of the F-value found in the final column (group * Index1) of table 4.5. Table 4.5 displays the results of the MLM analysis according to the interpretations given in the SPSS report.

Table 4.5 Type III Tests of Fixed Effects in MLM

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	48.519	772.196	.000
group	1	48.519	.843	.363
Index1	2	91.653	11.060	.000
group * Index1	2	91.653	4.109	.020

Estimates of fixed effects

From baseline to post-test 1 and post-test 2, Table 4.6 demonstrates the intervention's influence on the outcome variable using estimates of fixed effects. As a "post-hoc" evaluation of the group means, this kind of analysis is often performed after an F-test. Two common test statistics are the t-ratio and the student's t-distribution. A sample distribution of the t-statistic is denoted by the latter, whereas the former is the parameter estimate divided by the standard error. We interpreted the selected parameters as a whole, [group=1] * [Index1=2] (i.e., Pre-test and Post-test 1), regardless of how precise the table was. This indicates that we used the same logic as [group=1] * [Index1=3] to examine the pre- and post-test2 outcomes. Table 4.6 is taken straight from the SPSS report to show how the MLM analysis was interpreted.

Table 4.6 Predictions of Static Effects

Parameter	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Intercept	2.612500E1	1.770723	91.053 14.754		.000	22.607704	29.642296
[group=1]	-1.976852E0	2.433626	91.053	-.812	.419	-6.810913	2.857209
[group=2]	0a	0	-	-	-	-	-
[Index1=2]	.375000	1.720618	90.225	.218	.828	-3.043192	3.793192
[Index1=3]	3.258390E0	1.903793	93.774	1.712	.090	-.521755	7.038534
[Index1=4]	0a	0	-	-	-	-	-
[group=1] * [Index1=2]	6.513889E0	2.364764	90.225	2.755	.007	1.816033	11.211744
[group=1] * [Index1=3]	5.019696E0	2.514776	92.459	1.996	.049	.025464	10.013928

Findings from evidence-based practice (EBP) knowledge assessments given to both the control and experimental groups of nurse educators are shown in Table4.7, together with their respective means and standard deviations.

Table 4.7 Knowledge of Evidence-Based Practice (EBP) among Nurse Educators in the Experimental and Control Groups Before, During, and After the Trial

Group	Pre-test Mean±	SD	Post-test 1 Mean±	SD	Post-test 2 Mean±	SD
Experimental (n= 100)	24.15±	10.44	31.04±	8.14	32.27±	8.14
Control (n= 100)	26.13±	8.07	26.5±	8.44	30.72±	7.94

Test 2 and 1 results for the experimental groups were higher than their knowledge pre-test results (table 4.7). There was a statistically significant improvement in performance from the first to the second test; this improvement was seen even in the control group.

Using F-statistics in Mixed linear multilevel modeling, we compared the total EBP knowedge scores of nurse educators in the experimental and control groups. We found a statistically significant difference $(F (2, 91.65) = 4.11, p = 0.020)$. Such results demonstrate that the intervention's overall effect was distinct between the two groups.

5. **CONCLUSION**

The study's overarching goal was to determine how well the Multilevel Integrated Training Programme on EBP served its intended audiences—nurse educators and clinical nurses—in terms of improving clinical practice and patient care. Improvements in EBP knowledge, attitude, practice, and competence were evident after the intervention. Both clinical nurses and academic nurses used evidence-based practice (EBP) in their work with patients. By

providing detailed instructions for developing and assessing an intervention program based on evidence-based practice, this study's findings have the potential to enhance nurse education and patient care. Establishing a consistent method of educating students in EBP and incorporating EBP into classroom and clinical instruction is an ongoing issue for nurse educators. Integrating EBP into patient care practice as a routine is a difficulty for clinical nurses. Acquiring the necessary EBP abilities and competences is a process that demands patience and consistent practice. This study effort is a significant step towards establishing evidence-based practice (EBP) training for nursing professionals in India. It included teaching nursing professors, postgraduate nursing students, and neonatal nurses in a university environment.

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