

Impact of Structured Teaching Program on Knowledge Regarding MEWS Score Among Student Nurses in Selected Nursing College, Amritsar

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Abstract

Context: MEWS score is a simple, physiological score that may allow improvement in the quality and safety of management provided to patients.

Aims: The aim of the study is to evaluate the effectiveness of structured teaching program on level of knowledge regarding MEWS score among student nurses.

Methods and Material: The research design used in this study was one group pre-test and post-test Pre experimental design and conducted in selected Nursing College, Amritsar. Convenient sampling technique was used to select 30 student nurses. Structured knowledge questionnaire was used to before and after structured teaching program.

Statistical Analysis used: Collected data were coded, tabulated and analysed by descriptive and inferential statistics.

Results: Majority of the student nurses participated in the study belonged to 21-22 years of age (46.7%), Sikh religion (56.7%) and from rural area (56.6%). Most of the student nurses had monthly income of ₹10001-15000/- (43.3%) and got knowledge from multimedia (70%). The study findings revealed that in pre-test majority of the student nurses (53.3%) had inadequate knowledge whereas in post-test majority (56.7%) had adequate knowledge regarding MEWS score. The mean score was 6.80 in pre-test and 15.53 in post-test. The 't' value 11.25 which was highly significant

at 0.01 level. Hence hypothesis (H1) is accepted. There was no significant association between post-test knowledge score with selected demographic variables of student nurses.

Conclusions: Based on statistical findings, it is evident that the provision of structured teaching program on MEWS score has increased the knowledge of student nurses.

Keywords: Structured teaching program; Knowledge; MEWS score; Student nurses.

Introduction

MEWS (Modified early warning score) is a simple physiological score to determine clinical deterioration and identify high risk patients who in need of intensive care. MEWS described as evidence based organized screening tool with aggregated scoring of multiple pre-determined indicators to assist in early recognition and intervention of physiologic signs of patient deterioration. It is a nursing decision tool. MEWS is an aid to good clinical judgement, not a substitute for critical thinking. The primary purpose is to prevent delay in intervention or transfer of critically ill patient.

Statement of the Problem

Impact of structured teaching program on

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knowledge regarding MEWS score among student nurses in selected Nursing College, Amritsar.

Objectives

1. To assess pre-test knowledge regarding MEWS score among student nurses.
2. To assess post-test knowledge regarding MEWS score among student nurses.
3. To find out the differences between pre-test and post-test knowledge regarding MEWS score among student nurses.
4. To evaluate the effectiveness of structured teaching program on post-test level of knowledge on MEWS score among student nurses.
5. To find out the association between post-test levels of knowledge on MEWS score and selected demographic variables of student nurses.

Research Hypothesis

H1: There will be a significant difference between pre-test and post-test knowledge score before and after structured teaching program on MEWS score

H2: There will be a significant association between post-test level of knowledge on MEWS score and selected demographic variables of student nurses.

Materials and Methods

In this study impact of structured teaching program on knowledge regarding MEWS score among student nurses in selected Nursing College was studied by using structured knowledge questionnaire on MEWS score. The purpose of the study was to assess the knowledge level of student nurses and need of teaching program. The aim of the study was to assess the effectiveness of structured teaching program on the level of knowledge regarding MEWS score among student nurses.

The research design used in this study was one group pre-test and post-test Pre-experimental design. Pre-experimental research design involves the manipulation of independent variable to observe the effect on dependent variable, but lacks randomisation and control group. In this study structured teaching program used as manipulation to observe the effect on knowledge score of student nurses.

The study was conducted in S B S Institute of Nursing, Amritsar. The sample of the study consists of 30 BSc nursing final year students who fulfilled the criteria. Convenient sampling technique was used to select the samples.

Description of the tool

- Part I: Demographic variables
- Part II: Structured knowledge questionnaire consists of 20 questions regarding MEWS score with multiple choices. The total score of structured knowledge questionnaire ranges between 0 (inadequate knowledge) and 20 (adequate knowledge). Each question carries right answer 1 marks and wrong answer 0 mark.

Content validity of the tool was established in terms of relevance and accuracy by sending to experts and incorporated their suggestions in the tool. Reliability of the tool was tested using Karl Pearson's method and the tool was found to be reliable.

The data was collected by using structured knowledge questionnaire after getting written consent from samples. First Pre-test was conducted and following with structured teaching on MEWS score given through PPT presentation on the same day. After seven days post-test was conducted by using the same tool. Collected data were coded, tabulated and analysed by descriptive and inferential statistics. Data were put to statistical inferences by using SPSS software package.

Results

Findings Related to Sample Characteristics of Student Nurses

- In relation to age sample characteristics revealed that the majority of subjects were belonged to 21–22 years of age 14 (46.7%), some of them were of 23–24 years 9 (30%), few were of 19–20 years 6 (20%) and very few were of 25–26 years 1 (3.3%) (Table1).
- According to religion, most of the subjects were of Sikh 17 (56.7%), some were of Hindu 10 (33.3%), few were of Christian 2 (6.7%) and very few were of Muslim 1 (3.3%) (Table 1).
- Regarding residence area, Maximum subjects were from rural area 17 (56.6%), modest were from urban area 11 (36.7%) and few were from hostel 2 (6.6%) (Table 1).

- When considering monthly family income, 13 (43.3%) had monthly income ₹10001–15000, 11(36.7%) had monthly income ₹5001–10000 and 3 (10%) had monthly income above ₹15000 and below ₹5000 (Table 1).
- Regarding source of knowledge, most of the student nurses 21 (70%) got knowledge from multimedia, few of them 6 (20%) got knowledge from newspaper and very few 2 (6.7%) and 1 (3.3%) got knowledge from health personnel and magazines respectively (Table 1).

Table 1: Frequency and percentage distribution of demographic variables of student nurses

N = 30

S. No	Demographic variables	Frequency (n)	Percentage (%)
1	Age in years		
	19–20 years	6	20.0
	21–22 years	14	46.7
	23–24 years	9	30.0
2	Religion		
	Hindu	10	33.3
	Sikh	17	56.7
	Christian	2	6.7
3	Residence area		
	Rural area	17	56.6
	Urban area	11	36.7
	Hostel	2	6.6
4	Monthly family income (in ₹)		
	Below 5000	3	10.0
	5001–10000	11	36.7
	10001–15000	13	43.3
5	Source of knowledge		
	Health personnel	2	6.7
	Multi Media	21	70.0
	News paper	6	20.0
	Magazines	1	3.3

Findings Related to Knowledge Score Regarding Mews Score

The result of knowledge score revealed that in pre-test majority of the student nurses 16 (53.3%) had inadequate knowledge and others 14 (46.7%) had

moderately adequate knowledge whereas in post-test majority 17 (56.7%) had adequate knowledge and others 13 (43.3%) had moderately adequate knowledge (Table 2). No one had adequate knowledge in pre-test whereas markedly no one had inadequate knowledge in post-test (Fig. 1).

Table 2: Compare the pre-test and post-test level of knowledge regarding MEWS score among student nurses

N = 30

Level of knowledge	Pre-test		Post-test	
	f	%	f	%
Adequate knowledge	0	0	17	56.7
Moderately Adequate knowledge	14	46.7	13	43.3
Inadequate knowledge	16	53.3	0	0
Minimum score		0		10
Maximum score		14		20
Score range		14		10
Mean ± SD		6.80 ± 3.699		15.53 ± 2.862

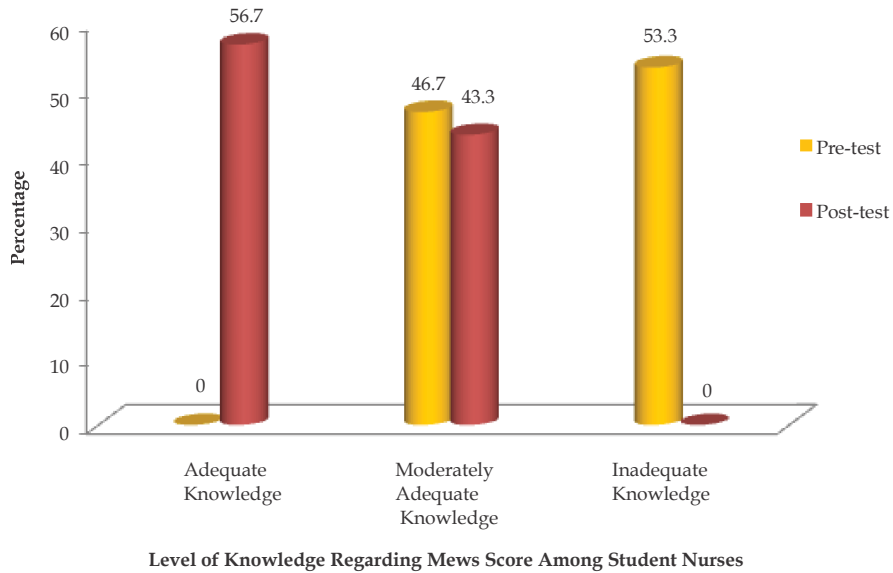


Fig 1: pre-test and post-test level of knowledge regarding MEWS score among student nurses.

The mean score was 6.80 in pre-test and 15.53 in post-test. The standard deviation was 3.699 in pre-test whereas 2.862 in post-test (Fig. 2). The 't' value 11.25 which was highly significant at 0.01 level. Hence there is a statistically significant difference

between pre-test and post-test knowledge score before and after structured teaching program on MEWS score. So hypothesis (H1) is accepted (Table 3).

Table 3: Effectiveness of structured teaching program on post-test level of knowledge on MEWS score among student nurses.

N = 30

Level of knowledge	Mean	SD	't' value	df	'p' value
Pre-test	6.80	3.699	11.25	29	0.000*
Post-test	15.53	2.862			

*p < 0.01 level of significance (Highly Significant) NS-Non significant

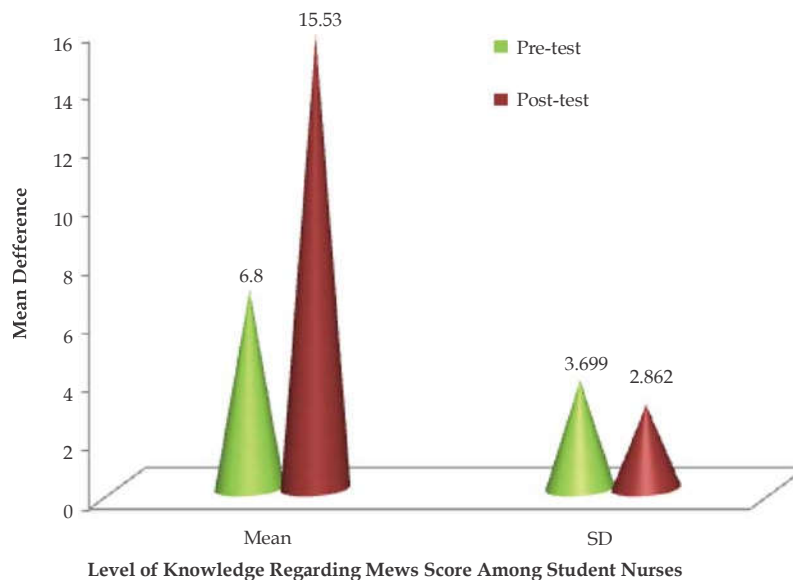


Fig 2: Mean and SD of pre-test and post-test level of knowledge regarding MEWS score among student nurses.

Findings Related to Association Between Post-Test Knowledge Score with Selected Demographic Variables

There was no significant association between post-

test knowledge score with selected demographic variables of student nurses. So hypothesis (H2) not accepted (Table 4).

Table 4: Association between post-test level of knowledge on MEWS score and selected demographic variables of student nurses.

N = 30							
S. No	Socio demographic variables	Moderately Adequate knowledge	Adequate knowledge	chi-value	df	p-value	
1	Age in years						
	19-20 years	2	4	5.145	3	0.161	
	21-22 years	9	5				NS
	23-24 years	2	7				
	25-26 years	0	1				
2	Religion						
	Hindu	6	4	3.817	3	0.282	
	Sikh	5	12				NS
	Christian	1	1				
Muslim	1	0					
3	Residence area						
	Rural area	7	10	0.089	2	0.957	
	Urban area	5	6				NS
Hostel	1	1					
4	Monthly family income (in ₹)						
	Below 5000	2	1	7.464	3	0.058	
	5001-10000	2	9				NS
	10001-15000	6	7				
Above 15000	3	0					
5	Source of knowledge						
	Health personnel	2	0	3.626	3	0.305	
	Multi Media	9	12				NS
	News paper	2	4				
Magazines	0	1					

P < 0.05 level of significance NS-Non significant

Discussion

Mohamad M. Saab et. al., conducted a systematic review on the effect of adult warning systems education on nurses knowledge, confidence and clinical performance using Cochrane methods. Eleven articles with 10 studies were included. The results showed that 9 studies addressed clinical performance, 4 addressed knowledge and 2 addressed confidence. Most of the studies revealed that knowledge, vital signs recording and early warning score calculation was improved in the short term. This review highlights the importance of measuring outcomes using standardized, valid and reliable instruments.

Conclusion

The study findings revealed that in pre-test majority of the student nurses 16 (53.3%) had inadequate knowledge whereas in post-test majority 17 (56.7%) had adequate knowledge regarding MEWS score. Based on statistical findings, it is evident that the provision of structured teaching program on MEWS score has increased the knowledge of student nurses.

Abbreviations

MEWS- Modified early warning score

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