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"A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON NATIONAL EARLY WARNING SCORE (NEWS) IN TERMS OF KNOWLEDGE AMONG THIRD YEAR BSc. NURSING STUDENTS STUDYING AT JG COLLEGE OF NURSING, AHMEDABAD."

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ABSTRACT

BACKGROUND

National Early Warning Score (NEWS) is a tool developed by the Royal College of Physician which improve the detection and response to clinical deterioration in adult patient and key elements of patient safety and improving patient outcomes. National Early Warning Score (NEWS) is a system for scoring the physiological measurement that are routinely recorded at the patient's bed site. It's purpose is to identify acutely ill patient's including those with sepsis. The National Early Warning Score (NEWS) like

many existing EWS systems, is based on simple scoring system in which a score is allocated to physiological measurement already undertaken when patient present to, or are being monitored in hospital. The National Early

Warning Score (NEWS) chart should replace the wide variety of Temperature, Pulse and Respiratory rate (TPR) charts currently in use, to provide standardized system for recording clinical data for all patients in hospital. The National Early Warning Score (NEWS) chart should be colorcoded (Red, Amber, Green-RAG coded) to provide both visual and numeric prompts to aid identification of abnormal clinical parameters therefore the main objective of this study is to excess the knowledge of National Early Warning Score (NEWS) among Third year BSc nursing students. **Objectives of the study were**

- To assess the knowledge regarding National Early Warning Score (NEWS) among Third year BSc Nursing students of JG College of Nursing Ahmedabad before and after the administration of the Planned Teaching Programme.
- To Evaluate the effectiveness of Planned Teaching Programme regarding National Early Warning Score (NEWS) among Third year BSc Nursing Student of JG College of Nursing Ahmedabad.
- To Find association of Pre-test knowledge with selected demographic data among Third year BSc Nursing students of JG College Nursing, Ahmedabad.

Method

Pre experimental approach was used with one group pre-test and post-test design. The study was conducted in the JG College of Nursing of Ahmedabad City, Gujarat state. The investigator used Convenient sampling technique for selecting 50 samples. In view of the nature of the problem and the accomplishment of the objectives of the study, a Structured Teaching Programme on National Early Warning Score (NEWS) was prepared for the sample. A Structured Knowledge Questionnaire (25) were prepared to assess the Knowledge of the samples. Factors associated with these outcomes were identified by using descriptive, inferential statistics, standard deviation.

Results

The Mean Pre-test Knowledge score of samples on NEWS was 10.18, while Mean post-test Knowledge score was 18.6, with the mean difference of 8.42. The calculated 't' value is ('t'=18.635) was greater than the tabulated 't' value ('t'=2) which was statistically proved at 0.05 level of significance. Hence, it was revealed that the Planned Teaching Programme was effective in improving knowledge among Third year BSc Nursing students of JG College of Nursing Ahmedabad. The data of the study reveals that among 50 samples, in Pre-test, 14(28%) have poor knowledge, and 36 (72%) Average Knowledge whereas in the post-test, samples had 9 (18%) Average Knowledge, and 41(82%) Good Knowledge of the National Early Warning Score (NEWS).

Conclusion

The study showed that Knowledge on National Early Warning Score (NEWS) were not so significant among students studying in JG College of Nursing, Ahmedabad. The findings indicated that Planned Teaching Programme developed by the investigator was effective in improving Knowledge of Samples on National Early Warning Score (NEWS). Thus, the Planned Teaching Programme can be used for a large population in different settings.

Introduction

National Early Waring Score (NEWS) is a track and trigger Early Warning Score system used to identify and response to the patient at risk of deterioration which includes six parameters Temperature, Respiration rate, Systolic blood pressure, Heart rate, Level of consciousness. National Early Warning Score (NEWS) System rate is Low score is 1 to 4, Medium score is 5 or more, High score is 7 or more. Based on Interim Clinical Guidance for Management of Patients with Confirmed Coronavirus Disease (COVID-19) by CDC. MoHFW (Ministry of health and family welfare)India guidelines for management of COVID 19 recommends monitoring all elements of Early Warning Score such as Temperature, Respiration rate, SpO2 , Heart rate, etc. Automated way of calculating of Early Warning Score (EWS) can serve as quick bed side tool especially in resources constraint environment. **More recently the NCEPOD**

(The National confidential enquiry into patient outcome and death)**(2012)report-** 'Time to Intervene' was published. This report identified a study of 593 patients who underwent cardio- pulmonary resuscitation in 585 areas of acute hospitals (incl. emergency departments), as a result of an in-patient cardio-respiratory arrests in England, Wales, Northern Ireland, Isle of Man, Guernsey and Jersey. Results showed that 28% of cardio-pulmonary resuscitation occurred in surgical areas, 27% in medical areas, 12% in coronary care units, and 8% in Emergency Departments. The reported findings were as follows:68% of patients had been in hospital for longer than 24 hours prior to cardiac arrest. Warning Sign for cardiac arrest were present in 75% of cases. These Warning Sign were recognized poorly, acted on infrequently, and escalated to more senior doctors infrequently. Cardiac arrest was predictable in 64% of cases and potentially avoidable in 38% of cases. **Objectives of the study were**

- To assess the knowledge regarding National Early Warning Score(NEWS) among Third year BSc Nursing student of JG College of Nursing Ahmedabad before and after administration of the Planned Teaching Programme.
- To Evaluate effectiveness of Planned Teaching Programme regarding National Early Warning Score(NEWS) among Third year BSc Nursing student of JG College of Nursing Ahmedabad.
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living, Ever come across NEWS during clinical Experience, Attended any Training/ Conference/ Workshop or Inservice Education on National Early Warning Score
(NEWS)

SECTION 2- It comprises questions on the following broad aspects:
Introduction and Definition NEWS. Aims of
NEWS Uses of
NEWS. National Early
Warning Score (NEWS) Trigger Level System
of NEWS.
Physiological parameters Included in NEWS.

SECTION 2 – This section comprises 25 knowledge items with a maximum score categorized under two broad areas- one score was given for each correct response and zero for the wrong response. The maximum score was 25 and the minimum 0. Planned Teaching was prepared in the English language.
The language of the teaching was kept as simple as possible
Good Knowledge level: Knowledge between 18-25 out of 25
Average Knowledge level: Knowledge between 9-17 out of 25
Poor Knowledge level: Knowledge score between 0-8 out of 25

Results

The Mean Pre-test Knowledge score of samples on NEWS was 10.18, while Mean post-test Knowledge score was 18.6, with the mean difference of 8.42. The calculated 't' value is ('t'=18.635) was greater than the tabulated 't' value ('t'=2) which was statistically proved at 0.05 level of significance. Hence, it was revealed that the Planned Teaching Programme was effective in improving knowledge among Third year BSc Nursing students of JG College of Nursing Ahmedabad. The data of the study reveals that among 50 samples, in Pre-test, 14(28%) have poor knowledge, and 36 (72%) Average Knowledge whereas in the post-test, samples had 9 (18%) Average Knowledge, and 41(82%) Good Knowledge of the National Early Warning Score (NEWS).

TABLE 1 DEMOGRAPHIC VARIABLES

(N=50)

Demographic Data		**Frequency (f)**	**Percentage (%)**
Age	18	1	2
	19	21	42
	20	26	52

	21	2	4
Gender	Female	39	78
	Male	11	22
Residence	Rural	0	0
	Urban	50	100
Come across NEWS	Yes	0	0
	No	50	100
Attended Seminar	Yes	0	0
	No	50	100

TABLE 2: FREQUNCY DISTRIBUTION LEVEL OF KNOWLEDGE AMONG STUDENTS IN PRE & POST TEST

(N=50)

Score	**Level**	**Pre-test**		**Post-test**	
		Frequency (f)	**Percentage (%)**	**Frequency (f)**	**Percentage (%)**
0-8	Poor	14	28	-	-
9-17	Average	36	72	9	18
18-25	Good	-	-	41	82
Total		50	100	50	100

Table-2 shows that 14(28%) Samples have Poor Knowledge, 36 (72%) Average Knowledge of the pre-test as regard post-test Samples have 9 (18%) Average Knowledge, and 41(82%) Good Knowledge of the National Early Warning Score (NEWS).

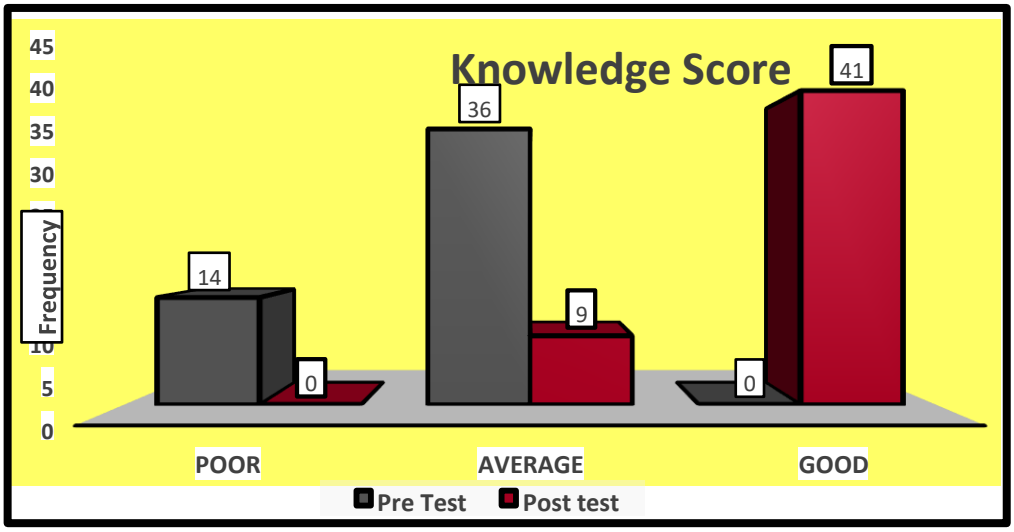

FIGURE 1: Bar graph showing the frequency-wise distribution of the sample according to the level of knowledge the In pre-test andpost-test on the National Early Warning Score (NEWS)

TABLE 3: Area-wise maximum score obtained score, Mean score, Mean percentage, Mean percentage gain, and Mean difference of Pre-test and Posttest knowledge scores of samples on National Early Warning Score (NEWS)

(N=50)

Area	Max Score	Pre-test knowledge score of samples			Post-test knowledge score of samples			Gain	Mean difference
		Obtained score	Mean Score	Mean percentage	Obtained score	Mean score	Mean percentage		
Introduction	2	37	0.74	37	97	1.94	97	1.2	60
Aims	1	38	0.76	76	46	0.92	92	0.16	16
Uses	1	35	0.7	70	46	0.92	92	0.22	22
NEWS System	5	100	2	40	218	4.36	87.2	2.36	47.2
Trigger Level System	5	101	2.02	40.4	179	3.58	71.6	1.56	31.2
Physiological Parameter	11	198	3.96	36	344	6.88	62.45	2.92	6.545

Total	25	509	10.18		930	18.6		8.42	

Table 3. shows the comparison of area-wise distribution between the Pre-Test and Post-Test Knowledge Scores obtained by Samples on the National Early Warning Score (NEWS). The Knowledge area was divided into seven sub-areas. The Pre-test Knowledge Score of Samples as per area was Introduction 0.74 (37%), Aims 0.76 (76%), Uses 0.7 (70%), NEWS System 2 (40%), Trigger level System 2.02 (40.4%), Physiological Parameter 3.96 (36%).

The Post-test Knowledge Score of Samples as per area was Introduction 1.94 (97%), Aims 0.92 (92%), Uses 0.92 (92%), NEWS System 4.36 (87.2%), Trigger level System 3.58 (71.6%), Physiological Parameter 6.88 (62.45%).

Table-3 further indicates that the Post-test mean percentage Knowledge score in all content areas was higher than the Pre-test mean percentage Knowledge Score. The investigator concluded that there was a significant increase in the Mean Post-test Knowledge Score as compared to the Mean Pre-test Knowledge Score in all areas after Planned Teaching Programme on National Early Warning Score (NEWS).

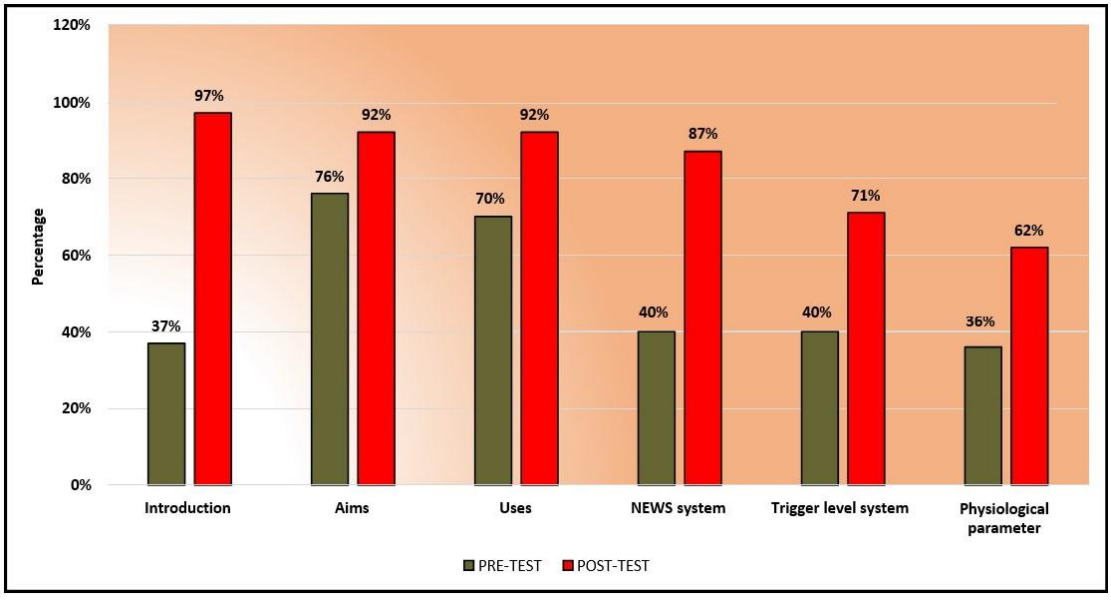

FIGURE 2: Bar graph showing the comparison of Area Wise Mean ercentage of Pre-test and Post-test Knowledge A score of samples on the National Early Warning Score (NEWS).

TABLE 4: The Maximum score obtained score, mean score, mean percentage (%), Mean difference Mean percentage gain, and pre-test and post-test knowledge scores of samples on the National Early Warning Score (NEWS).

(N=50)

Knowledge	Max Score	Obtained score	Mean Score	Mean Percentage (%)	Mean Difference	Mean Percentage gain (%)
Pre-test	25	509	10.18	40.72	8.42	33.68
Post-test	25	930	18.6	74.4		

Table-4 shows that among 50 samples, the Pre-test knowledge score was 509 and the mean score was 10.18 (40.72%) whereas the Post-test Knowledge score was 930 and the mean score was 18.6 (74.4%). The mean difference between Pre-test and Post-test Knowledge as 8.42 and 33.68% as the Mean Percentage gain of the Samples on the National Early Warning Score (NEWS)

TABLE 5: Mean, Mean Difference, Standard Deviation, Standard Error, and 't' Value of Pre-test and Post-test Knowledge Score of the Samples.

(N=50)

Knowledge	Mean	Mean Difference	SD	SE	Calculated 't' value	Tabulated 't' value
Pre-test	10.18	8.42	2.740	0.52	18.635	2
Post-test	18.60		2.470			

Table 5 shows that Mean Pre-test Knowledge score was 10.18 while Mean post-test Knowledge score was 18.60. Hence the Mean Difference between Pretest and Post-test Knowledge was 8.42. The Standard Deviation (SD) of the Pretest 2.74 and the Post- test was 2.47. The calculated 't' value is 18.635 with degree of freedom 49 at 0.05 level of significance. It revealed that Calculated 't' value (t=18.635) was greater than tabulated 't' value (t=2) which was statistically proved.

Hence, Research Hypothesis H1 was aceepted.

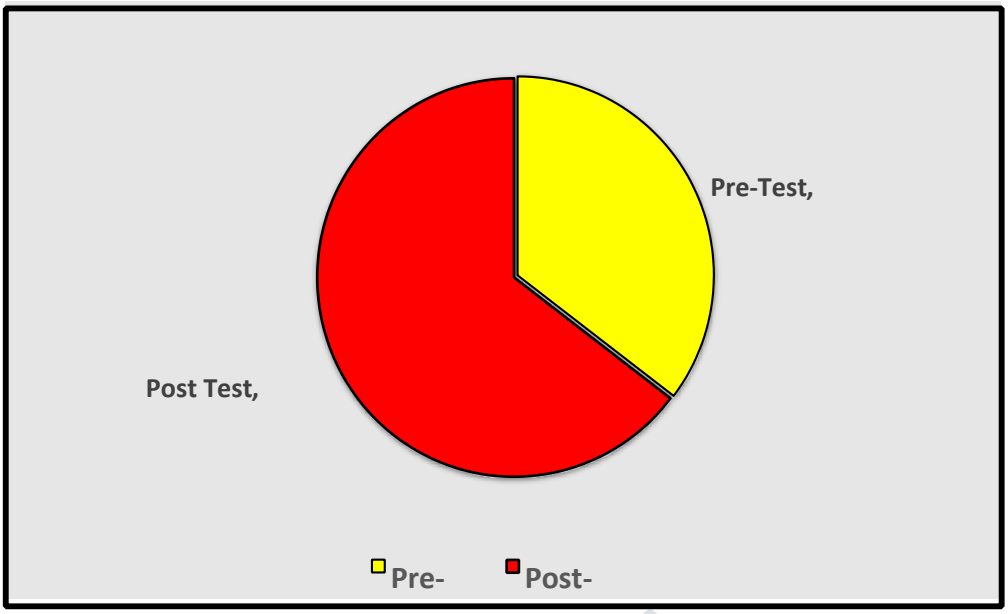

Figure 3: pie graph showing pre-test and post-test mean knowledge scores of the sample on National Early Warning Score

TABLE 6: ANALYSIS AND INTERPRETATION OF THE DATA RELATED TO THE ASSOCIATION OF PRE–TEST KNOWLEDGE SCORE WITH SELECTED DEMOGRAPHIC VARIABLES (N=50)

		Pre-test		Total	Chisquare	Df	Table Value	Sig/Non sig
		Average	Poor					
Age	18	1	0	1	8.451	3	7.82	Sig
	19	18	3	21				
	20	16	10	26				
	21	0	2	2				
Gender	Female	26	13	39	4.955	1	3.84	Sig
	Male	11	0	11				
Area of living	Urban	36	14	50	Can't Be Computed			
Have you ever come cross NEWS in clinical posting	No	36	14	50	Can't Be Computed			
Have you ever attended any seminar/ conference regarding NEWS	No	36	14	50	Can't Be Computed			

Table 6 shows age group with the pre-test knowledge scores, the calculated value of chi-square 8.451 more than 7.82 the table value of chi-square at the 3 degrees of freedom. Therefore, Age was significant for the knowledge of

samples. Gender of samples with pre-test scores, the calculated value of chisquare was4.955, the table value was 3.84 with 1 degree of freedom and Gender is significant for the knowledge of samples.

Conclusion

The study showed that Knowledge and Practice on National Early Warning Score (NEWS) were not so significant among students studying in JG College of Nursing, Ahmedabad. The findings indicated that Planned Teaching Programme developed by the investigator was effective in improving Knowledge of Samples on National Early Warning Score (NEWS). Thus, the Planned Teaching Programme can be used for a large population in different settings.

Conflict of interest: The authors declare that they have no competing interests.

Ethics declarations

Ethics approval and consent to participate

JG College of Nursing, Institute Ethics Committee reviewed this study and granted ethical approval. Electronic consent has been obtained from participants.

Consent for publication

Written consent for publication was obtained from each participant.

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