A STUDY TO ASSESS THE EFFECT OF STRUCTURED TEACHING PROGRAMME ON APACHAE II AND SOFA SCORE AMONG STAFF NURSES WORKING IN SELECTED HOSPITAL, BHOPAL, M.P.

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ABSTRACT

The predictive scoring systems help in assessing disease severity and patient prognosis in the ICU. It highlights four widely validated systems: APACHE, SAPS, MPM, and SOFA, emphasizing their role in clinical decision-making, research standardization, and ICU care quality comparison. APACHE II and SOFA are crucial severity-of-disease scoring systems used in intensive care units (ICUs). This study aimed to assess the impact of a structured teaching program on the knowledge of APACHE II and SOFA scoring among intensive care unit (ICU) staff nurses. The study found that the majority of staff nurses were Post B.Sc. (50%), with varying years of experience. Mean Pre test knowledge scores 4.5; while post-test mean scores significantly improved to 15.27 after the teaching program. Significant associations were found between knowledge levels and demographic variables such as education status, years of experience, and area of experience. In conclusion, the study demonstrates that structured teaching programs effectively enhance the knowledge of ICU staff nurses regarding APACHE II and SOFA scoring.

KEYWORDS: *Predictive scoring systems, Disease severity, Patient prognosis, ICU care quality, APACHE II, SOFA scoring*

INTRODUCTION

The predictive scoring systems help in assessing disease severity and patient prognosis in the ICU. APACHE II and SOFA are crucial severity-of-disease scoring systems used in intensive care units (ICUs). APACHE II assigns a score between 0 and 71 based on various measurements, indicating disease severity and mortality risk. SOFA, on the other hand, tracks a patient's organ function across six systems, providing a daily score from 0 to 24. Sequential monitoring of organ dysfunction with SOFA is valuable for prognosis, with an increase in the score within 48hours predicting high mortality rates. These scoring systems play a pivotal role in ICU patient management and outcome prediction. The study is essential as multiple organ dysfunction syndromes (MODS) involve impaired organ function in critically ill patients. Early ICU support during the critical "golden hour" and a high clinical suspicion can significantly reduce MODS-related mortality. There is a lack of knowledge and extensive research on predicting scoring system within the Indian professionals. Nursing Professionals do play an important role in providing golden end time care to the critically ill patients. Their knowledge can be utilized in prevention and early management of this condition which will reduce the morbidity due to other organ dysfunction. Thus the investigator felt the importance of conducting a study to evaluate the effectiveness of structured teaching programme on knowledge APACHAE and SOFA score among staff nurses working in selected hospital.

STATEMENT OF PROBLEM

A pre-experimental study to assess the effect of structured teaching programme on APACHE II and SOFA scoring among staff nurses working in Intensive Care Unit of selected hospital, Bhopal, M.P.

OBJECTIVES

- Assess the knowledge of staff nurses on APACHE II and SOFA score.
- Determine the effect of structured teaching programme on APACHE II and SOFA on staff nurses.
- Associate the effectiveness of structured teaching programme on selected demographic variables.

ASSUMPTIONS

1. The staff nurses will have some knowledge about APACHE II and SOFA scoring system.
2. APACHE II and SOFA score will help in classifying the severity of illness.
3. Structured Teaching Programme may enhance the knowledge level of staff nurses working in Intensive Care Unit.

HYPOTHESES

H1: There will be significant difference in the pre test and post test knowledge scores on APACHE II and SOFA scoring among Staff Nurses working in ICU.

H2: There will be significant association between the Staff nurses knowledge score and selected demographic variables.

H01: There is no significant difference in the pre test and post test knowledge scores on APACHE II and SOFA scoring among Staff Nurses working in ICU.

DELIMITATIONS
1. Study is restricted to ICU staff nurses working in selected hospital, Bhopal.
2. Sample size is limited.

REVIEW OF LITERATURE
Stevens V, et.al. (2012) This study investigates the utility of the Acute Physiology and Chronic Health Evaluation (APACHE) II score in forecasting mortality among individuals afflicted with Methicillin – Resistant Staphylococcus Aureus (MRSA) bacteraemia, within both intensive care unit (ICU) and non-ICU healthcare settings. The research, comprising 200 MRSA bacteraemia cases from two distinct hospitals, employs logistic regression models for analysis. The findings reveal that APACHEII scores exhibit robust predictive capabilities for mortality at various time intervals, encompassing both ICU and non-ICU patient populations. Furthermore, they exhibit superior discrimination and enhanced predictive accuracy compared to adjustments based solely on age. In conclusion, the APACHEII score emerges as a valuable instrument for predicting mortality and controlling for confounding variables in MRSA bacteraemia cases affecting both ICU and non-ICU patients.

PatelMJ, et.al (2000) This study explores the utility of APACHE II scores in predicting cardio- pulmonary resuscitation (CPR) outcomes in a tertiary care institute in a low-income country. Researchers conducted a retrospective review of 738 patients who experienced cardiac arrest and received CPR at Aga Khan University Hospital, Karachi, between 2002 and 2007. The findings reveal that patients with APACHE II scores below 20 had significantly higher odds of survival (>24 hours) compared to those with scores above 35

(AOR: 4.6, 95% CI: 2.4-9.0). Therefore, considering APACHE II scores, alongside other patient characteristics, is essential in making informed decisions regarding CPR administration.

METHOD
The research approach for this study is an Evaluative approach and the research design is classified as pre - experimental. The study was conducted in the Intensive Care Units of selected Hospital. A sample size of 30 staff nurses from the Intensive Care Unit was selected for the study. Data collection tools included a socio-demographic data section and a self-structured questionnaire related to APACHE II and SOFA scoring. Data collection took place with permission obtained from relevant authorities. The structured teaching program was implemented, followed by a post-test conducted seven days later. Data analysis involved descriptive and inferential statistics. Challenges encountered during data collection included difficulties in coordinating with nursing staff due to varying shift schedules, obtaining permissions from different Ward In charges, and engaging nursing staff in the study.

RESULT
In this study, the demographic characteristics of the staff nurses were analyzed. It was found that the majority of the nurses had a Post B.Sc. degree, accounting for 50% of the sample. Additionally, 33.33% held a B.Sc. degree, while the remaining 16.67% possessed a GNM qualification. When considering years of experience, the data revealed that 46.67% of the nurses were fresher's, indicating they were relatively new to their roles. Furthermore, 26.67% had 2-3 years of experience, 16.66% had 4-5 years of experience, and 10% had accumulated more than 5 years of experience in their field. In terms of their working areas, 33.33% of the nurses were stationed in the medical and surgical units, 20 % worked in the ICCU, and 13.33% were assigned to the rare as within the hospital. These demographic in sights provide context for understanding the study's findings and its implications for improving the knowledge of APACHE II and SOFA scoring among the staff nurses.
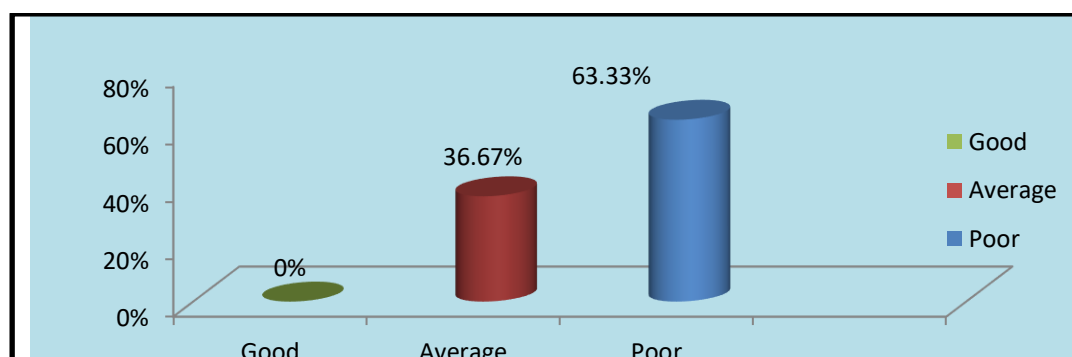

Figure1: Distribution of Staff Nurses according to pretest knowledge score.
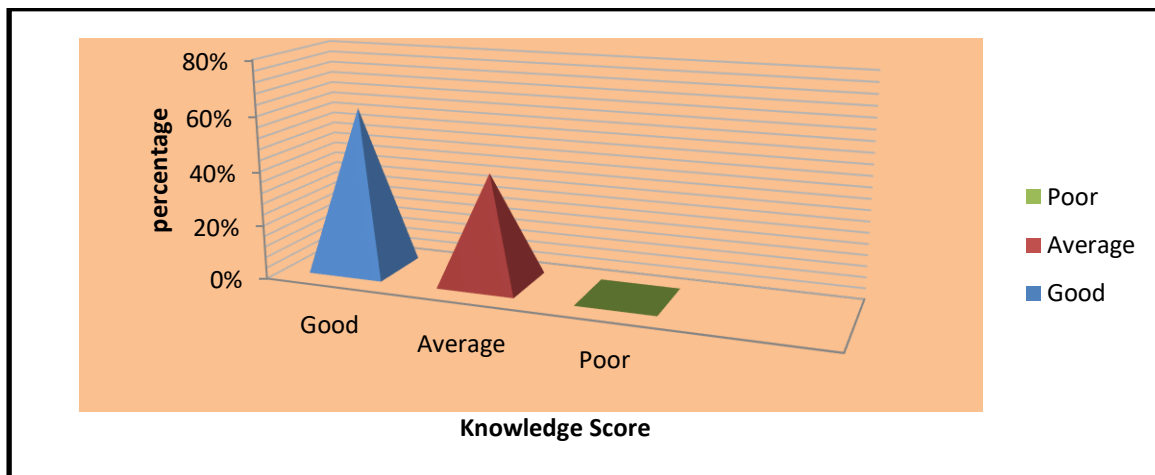
Figure2: Distribution of Staff Nurses according to post test knowledge score

Table1: Difference of pre-test and posttest mean scores of Staff Nurses.

Knowledge Level	Mean	Standard Deviation
Pretest	4.5	2.75
Posttest	15.27	2.93

The knowledge score of staff nurses underwent a notable transformation as a result of a structured teaching program. Initially, the mean pre test score stood at 4.5, reflecting the baseline knowledge level among the nurses. However, following the program, the mean post- test score significantly increased to 15.27, indicating a substantial improvement in their knowledge base. This improvement was statistically significant, with a p-value of 0.05, underscoringtheeffectivenessofthestructuredteachingprogrami nenhancingtheknowledge of staff nurses.

Table 2: Association of pre test knowledge score of Staff Nurses with selected Demographic Variables.

S.NO	DEMOGRAPHIC VARIABLES	KNOWLEDGELEVEL			χ^2
		POOR	AVERAGE	GOOD	
1.	**Education Status** GNM Post B.Sc. Nursing B.Sc. Nursing M.Sc. Nursing	5	0	0	25.698 Significant
		10	5	0	
		4	6	0	
		0	0	0	
2.	**Year of experience** 0-1year 2-3year 4-5year Above5years	10	4	0	21.443 Significant
		5	3	0	
		2	3	0	
		2	1	0	
3.	**Working Area** Medical ICU Surgical ICU ICCU Others	5	5	0	20.445 Significant
		6	4	0	
		4	2	0	
		4	0	0	

Furthermore, the study also unveiled intriguing insights into the relationship between the knowledge level of staff nurses and various demographic factors. It was found that education status, years of experience, and the area of experience had a significant association with their knowledge level. This suggests that these demographic variables play a pivotal role in shaping and influencing the knowledge base of staff.

Recommendations for future research include larger sample sizes, adopting a true experimental design, conducting comparative studies in different settings, and exploring factors influencing knowledge through qualitative research.

CONCLUSION

The study aimed to assess the impact of structured teaching on the knowledge of staff nurses employed at selected Hospital in Bhopal, particularly in relation to their understanding of the APACHE II and SOFA scoring systems. The findings of this study demonstrate that a significant portion of the staff nurses exhibited an improvement in their knowledge of APACHE II and SOFA scores as a result of participating in a structured teaching program. This underscores the importance of recognizing the educational needs of staff nurses involved in the care of critically ill patients in the ICU.

In light of these findings, it is recommended that hospital management prioritize the ongoing education of staff nurses through the implementation of similar structured teaching programs on a regular basis. Such initiatives have the potential to enhance the quality of care provided to critically ill patients and ultimately contribute to improved patient outcomes.

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