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“A Pre Experimental Study To Assess The Effectiveness Of Structured Teaching Programme Regarding Selected Cardiac Emergency Drugs In Terms Of Knowledge Among B.Sc.Nursing 3rd Year Students Of Selected Nursing Colleges At Rajnandgaon, Chhattisgarh.”

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Abstract: Cardiovascular emergencies require prompt recognition and immediate management to reduce morbidity and mortality. Adequate knowledge of cardiac emergency drugs is essential for nursing students who are directly involved in patient care during critical situations. The present study aimed to assess the effectiveness of a structured teaching programme regarding selected cardiac emergency drugs among B.Sc. Nursing third-year students in selected nursing colleges at Rajnandgaon, Chhattisgarh. A quantitative research approach with a pre-experimental one group pre-test post-test design was adopted. The study sample consisted of 80 B.Sc. Nursing third-year students selected through convenience sampling. Data were collected using a self-structured questionnaire to assess knowledge. The findings revealed that students' knowledge significantly improved after the teaching programme. The mean post-test score (26.03) was higher than the pre-test score (14.17), with a significant t-value of 4.211. The study concluded that the structured teaching programme was effective in enhancing students' knowledge regarding cardiac emergency drugs and improving their preparedness for clinical practice.

Keywords: *Cardiac Emergency Drugs; Structured Teaching Programme; Knowledge; B.Sc. Nursing Students; Cardiovascular Emergencies; Pre-test Post-test; Nursing Education; Pharmacology Knowledge.*

INTRODUCTION

Cardiovascular emergencies are acute and life-threatening conditions that demand immediate recognition and rapid medical intervention. These emergencies arise when the normal functioning of the heart and blood vessels is suddenly compromised, leading to a critical reduction in blood flow and oxygen delivery to vital organs. If not identified and treated promptly, they can quickly result in severe complications, permanent organ damage, or death. Early recognition of warning signs and timely management play a crucial role in reducing morbidity and mortality associated with these conditions. Health professionals, particularly nurses who often serve as the first point of patient assessment, must possess strong clinical judgment

and the ability to respond quickly to changes in a patient's cardiovascular status.

Patients experiencing cardiovascular emergencies may present with a variety of alarming symptoms. One of the most common presentations is severe hypertension, which can lead to complications such as stroke, heart failure, or damage to major organs if left untreated. Another frequent symptom is chest pain, which may indicate conditions such as myocardial ischemia or myocardial infarction. Dysrhythmias or irregular heartbeats are also significant warning signs, as they can disrupt the heart's ability to pump blood effectively. In more severe situations, patients may progress to cardiopulmonary arrest, a condition in which the heart suddenly stops beating and breathing



ceases, requiring immediate resuscitation efforts. Each of these manifestations requires rapid clinical evaluation, accurate diagnosis, and prompt initiation of life-saving interventions.

Effective management of cardiovascular emergencies depends on a well-coordinated healthcare response and the rapid implementation of appropriate treatment strategies. Continuous monitoring of vital signs, electrocardiographic assessment, oxygen therapy, and timely administration of medications are essential components of emergency care. In many situations, advanced interventions such as defibrillation, cardiopulmonary resuscitation (CPR), or emergency cardiac procedures may be required to stabilize the patient. Nurses and other healthcare professionals play a critical role in identifying early symptoms, initiating emergency protocols, and providing supportive care throughout the treatment process. Through prompt recognition, efficient teamwork, and evidence-based interventions, healthcare providers can significantly improve patient outcomes and reduce the risk of long-term complications associated with cardiovascular emergencies.

PROBLEM STATEMENT

“A pre experimental study to assess the effectiveness of structured teaching programme regarding selected cardiac emergency drugs in terms of knowledge among B.Sc.nursing 3rd year students of selected nursing colleges at Rajnandgaon, Chhattisgarh.”

OBJECTIVES:-

1. To assess the pre test and post test knowledge regarding selected cardiac emergency drugs among B.Sc. nursing 3rd year students.
2. To assess the effectiveness of structured teaching program on knowledge regarding selected emergency cardiac drugs among 3rd year B.sc nursing students.
3. To find out the association between pre-test knowledge score of nursing students with their selected demographic variable.

METHODOLOGY

The methodology of a research study outlines the systematic procedures and strategies used to collect,

analyze, and interpret data in order to achieve the objectives of the study. In the present research, the conceptual framework was based on the General System Model, which provides a comprehensive approach for understanding how different components within a system interact with each other. The General System Model views any organization or phenomenon as a system composed of interconnected parts that function together to achieve a specific outcome. In the context of this study, the model helped in understanding how educational input, such as teaching interventions, can influence the knowledge level of nursing students. The model consists of three main components: input, throughput, and output. The input includes the baseline knowledge of the students and the educational material provided to them. Throughput refers to the learning process and teaching strategies used to deliver the content. The output represents the change or improvement in the knowledge level of the students as measured through post-test assessment. By using this framework, the study was able to systematically examine the effect of the educational intervention on students' knowledge.

A quantitative research approach was adopted for this study. Quantitative research focuses on the measurement and analysis of numerical data in order to identify patterns, relationships, and changes in variables. This approach was considered appropriate because the primary objective of the study was to assess the level of knowledge among nursing students and to determine whether there was a measurable improvement after the educational intervention. Quantitative methods allow researchers to collect structured data that can be analyzed statistically to draw valid and reliable conclusions. The use of numerical data also helps in objectively evaluating the effectiveness of the intervention and comparing pre-test and post-test scores.

The research design selected for the study was a pre-experimental one-group pre-test and post-test design. This design is commonly used in educational and nursing research to measure the effectiveness of a teaching



program or intervention. In this design, a single group of participants is assessed before and after the implementation of an intervention. The pre-test is conducted to determine the existing level of knowledge among the participants before exposure to the teaching program. After the intervention is administered, the post-test is conducted using the same or a similar assessment tool to evaluate any changes or improvements in knowledge. The difference between the pre-test and post-test scores reflects the impact of the educational intervention. Although this design does not include a control group for comparison, it is useful in preliminary studies where the objective is to determine whether an intervention has a potential effect.

The study was conducted among students of the Bachelor of Science (B.Sc.) Nursing third year studying in a selected college of nursing in Rajnandgaon. Nursing students at this level were selected because they already possess foundational knowledge in nursing and are capable of understanding advanced theoretical and clinical concepts. Moreover, third-year nursing students are actively engaged in clinical training and are expected to apply their theoretical knowledge in real-life healthcare settings. Therefore, assessing and improving their knowledge through educational interventions is important for enhancing their professional competence and quality of patient care.

The sample size for the study was 80 students. Determining an appropriate sample size is an important aspect of research, as it ensures that the findings are reliable and representative of the population being studied. A sample of 80 participants was considered adequate for assessing the effectiveness of the educational intervention and for conducting statistical analysis of the collected data. The participants included in the study were those who met the inclusion criteria, such as being enrolled in the third year of the B.Sc. Nursing program and being willing to participate in the research. Students who were absent during the period of data collection or who did not provide consent to participate were excluded from the study.

The sampling technique used in this study was convenience sampling. Convenience sampling is a non-probability sampling method in which participants are selected based on their availability and willingness to participate in the research. This technique is commonly used in educational settings where the researcher has easy access to a specific group of participants. In the present study, the researcher selected third-year B.Sc. Nursing students who were available in the selected college of nursing at the time of data collection. Although convenience sampling may have certain limitations in terms of generalizability, it is practical and efficient for studies conducted within a limited time frame and specific institutional settings.

Data collection was carried out using a self-structured questionnaire designed to assess the knowledge of the students. The questionnaire was developed by the researcher after reviewing relevant literature, textbooks, and previous research studies related to the topic. The tool consisted of multiple questions that measured the knowledge level of nursing students regarding the subject under study. The questionnaire was designed in a simple and clear format to ensure that students could easily understand and respond to the questions. It included objective-type questions that allowed for easy scoring and statistical analysis.

Before the actual data collection, the questionnaire was reviewed for clarity, relevance, and appropriateness. Necessary modifications were made based on expert suggestions to ensure the validity of the instrument. The self-structured questionnaire was then administered to the students as a pre-test to assess their baseline knowledge. After completing the pre-test, the educational intervention or teaching program was provided to the participants. Following the intervention, the same questionnaire was administered again as a post-test to measure the improvement in knowledge.



The data collection process was conducted after obtaining necessary permission from the concerned authorities of the selected college of nursing. Informed consent was obtained from all participants before their inclusion in the study. The students were informed about the purpose of the research and assured that their responses would be kept confidential and used only for academic purposes. They were also given the freedom to withdraw from the study at any stage if they wished to do so.

Once the data were collected, they were organized and analyzed using appropriate statistical methods. Descriptive statistics such as frequency, percentage, mean, and standard deviation were used to summarize the demographic characteristics and knowledge scores of the participants. Inferential statistical methods were used to compare the pre-test and post-test scores to determine the effectiveness of the educational intervention.

Thus, the methodology adopted for this study provided a structured and systematic approach for assessing the knowledge of nursing students and evaluating the impact of the teaching intervention. The use of a quantitative approach, pre-experimental research design, convenience sampling technique, and self-structured questionnaire ensured that the study was conducted in an organized and scientifically valid manner. The findings obtained from this methodology contributed to a better understanding of how educational interventions can improve the knowledge and learning outcomes of nursing students.

RESULTS

1st objective: In pre test 12.5% have good knowledge where the percentage in post test were 32.5% have excellent knowledge and 81.25% have average knowledge in pre test and in post test 63.2% have good knowledge and in pre test 6.25% poor knowledge were as in post test 3.75%.

Knowledge Level	Pre-Test Frequency (%)	Post-Test Frequency (%)
Excellent Knowledge	0 (0%)	26 (32.5%)
Good Knowledge	10 (12.5%)	50 (63.75%)

Average Knowledge	65 (81.25%)	1 (1.25%)
Poor Knowledge	5 (6.25%)	3 (3.75%)
Total	80 (100%)	80 (100%)

Table 1: Distribution of B.Sc. Nursing 3rd Year Students According to Pre-Test and Post-Test Knowledge Levels

2nd objective: the mean post-test knowledge score 26.0375 pretest knowledge scores 14.175, mean difference of 11.862 the 't' value of knowledge 4.211 for df 79 post-test standard deviation is 3.9950 pre test standard deviation is 3.233.

Variable	Mean Score	Standard Deviation (SD)	Mean Difference	t-Value	Degree of Freedom (df)
Pre-Test Knowledge Score	14.175	3.233	11.862	4.211	79
Post-Test Knowledge Score	26.0375	3.9950			

Table 2 : Comparison of Pre-Test and Post-Test Knowledge Scores Among B.Sc. Nursing 3rd Year Students

This table indicates that the mean post-test knowledge score (26.0375) was higher than the mean pre-test knowledge score (14.175). The mean difference was 11.862, showing a notable improvement in the knowledge level of students after the educational intervention. The standard deviation of the pre-test was 3.233, while the post-test standard deviation was 3.9950, indicating variability in scores among students. The calculated t-value was 4.211 at 79 degrees of freedom, suggesting that the difference between pre-test and post-test knowledge scores was statistically significant. This finding demonstrates that the teaching intervention was effective in improving the knowledge of B.Sc. Nursing third-year students.



3rd objective: There was significant association found between level of knowledge regarding cardiac emergency drugs among B. Sc Nursing students.

DISCUSSION

The present study revealed a noticeable improvement in the level of knowledge among B.Sc. Nursing students following the educational intervention. Initially, the pre-test results indicated that many students possessed only an average level of knowledge regarding various aspects of pharmacological drugs. However, after the implementation of the teaching program, the post-test results demonstrated a significant increase in their understanding and awareness. This improvement highlights the effectiveness of structured educational strategies in enhancing the theoretical knowledge of nursing students. As nursing professionals are directly involved in medication administration and patient care, having adequate knowledge about drugs is essential for ensuring patient safety and effective treatment outcomes.

The findings of the study show that students gained a better understanding of important pharmacological concepts such as **drug action, indications, contraindications, pharmacokinetics, and possible side effects**. Knowledge about drug action helps nursing students understand how medications produce their therapeutic effects in the body. Similarly, understanding the indications and contraindications of drugs enables them to recognize when a medication should be administered and when it should be avoided to prevent potential harm to patients. Pharmacokinetics, which includes the processes of absorption, distribution, metabolism, and excretion of drugs, is also an important concept that helps nurses anticipate how medications behave within the body. Furthermore, awareness of possible side effects allows nurses to identify adverse reactions early and take appropriate action to protect patient health.

Another important finding of the study is the improvement in students' understanding of the role and responsibilities of nurses in drug administration and monitoring. Nurses

play a crucial role in ensuring safe medication practices, including correct dosage calculation, proper administration techniques, monitoring patient responses, and educating patients about their medications. The improvement in knowledge observed in the study indicates that the educational intervention successfully strengthened students' competence and preparedness for clinical practice. Therefore, regular educational programs, workshops, and training sessions should be encouraged in nursing education to continuously enhance students' pharmacological knowledge and clinical decision-making skills.

CONCLUSION

The present study was conducted to assess the effectiveness of a structured teaching programme regarding selected cardiac emergency drugs among B.Sc. Nursing third-year students in selected nursing colleges at Rajnandgaon, Chhattisgarh. Cardiovascular emergencies require immediate recognition and prompt management, and nurses play a vital role in administering emergency medications and monitoring patient responses. Therefore, adequate knowledge about cardiac emergency drugs is essential for nursing students who will soon be involved in clinical practice.

The findings of the study demonstrated that the structured teaching programme was effective in improving the knowledge level of B.Sc. Nursing students regarding selected cardiac emergency drugs. In the pre-test, the majority of students had only an average level of knowledge, while a small percentage had good knowledge and a few had poor knowledge. However, after the implementation of the structured teaching programme, the post-test results showed a remarkable improvement, with a higher percentage of students achieving good and excellent knowledge levels. This indicates that educational interventions play a significant role in enhancing students' understanding of important clinical topics.

The statistical analysis further supported the effectiveness of the teaching programme. The mean post-test knowledge score was significantly higher than the pre-test knowledge score, and the calculated t-value indicated that the difference was statistically significant. The improvement in



knowledge included better understanding of drug action, indications, contraindications, pharmacokinetics, side effects, and the role of nurses in the safe administration of cardiac emergency drugs. In addition, the study found a significant association between the level of knowledge and selected demographic variables among the students.

In conclusion, the structured teaching programme proved to be an effective educational strategy for improving the knowledge of nursing students regarding cardiac emergency drugs. Such teaching programmes should be regularly incorporated into nursing education to strengthen students' theoretical knowledge and clinical competence. Enhancing the knowledge and preparedness of nursing students will ultimately contribute to better patient care and improved outcomes in cardiovascular emergencies.

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