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TO ASSESS THE EFFECTIVENESS OF SIMULATION VERSUS VIDEO ASSISTED TEACHING ON KNOWLEDGE REGARDING PAEDIATRIC ADVANCED LIFE SUPPORT (PALS) AMONG STUDENTS OF SELECTED NURSING COLLEGES: A COMPARATIVE STUDY.

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ABSTRACT:

Introduction: Pediatric Advanced Aife Support (PALS) is a critical competency for Nursing students, ensuring timely and effective intervention during pediatric emergencies. This study evaluates the effectiveness of Simulation-based teaching versus Video-assisted teaching in enhancing knowledge among nursing students. **Objectives** To compare the effectiveness of Simulation versus Video assisted teaching on knowledge regarding Pediatric Advanced Life Support (PALS) among the students of selected Nursing colleges. **Methodology:** Two arm interventional comparative design was adopted, with 50 participants divided into two groups: one receiving Simulation-based teaching and the other undergoing Video- assisted teaching. A self-structured questionnaire was used to assess knowledge before and after the interventions. Data were analyzed using descriptive and inferential statistics to determine the significance of knowledge improvement within and between groups. **Results**: post-test scores was (p value 0.07). The simulation- based approach demonstrated was having greater impact, highlighting its effectiveness in providing hands-on, experiential learning. The discussion emphasizes the importance of interactive methodologies in Nursing education and the need to incorporate Simulation-based learning for better knowledge retention and skill development **Conclusion:** Simulation-based teaching is more effective than Video- assisted teaching in enhancing PALS knowledge among Nursing students. It is recommended that Nursing curricula integrate more Simulation-based training to improve student preparedness for real-life pediatric emergencies.

Future studies should explore long-term knowledge retention and practical skill application following these teaching interventions. **Keywords**: pediatric advanced life support (PALS)), simulation-based learning, video- assisted teaching.

INTRODUCTION

"Child is the most beautiful of all the life seasons"

John f. Kennedy

Pediatric advanced life support (pals) is specialized training for emergency care of children and infants from the American heart association. A pals healthcare provider will be able to recognize and treat infants and children who are at risk of cardiopulmonary arrest and provide a systematic way to pediatric assessment. Pals prepare a healthcare provider for effective respiratory management and synchronized cardioversion. Opening the airways of small children and infants is critical during the initial response of a life- threatening emergency. CPR techniques and effective resuscitation team dynamics are also critical. In the pediatric basic life support series, rescuers should perform assessment for signs of life (circulation) simultaneously with breathing assessment and during the delivery of rescue breaths. If there are no signs of life, chest compressions should be started immediately after rescue breaths have been delivered.[1]

The infant mortality rate globally 93 mortalities per 1000 live birth for India in 2021 were 28.771 deaths per 1000 live births, a 3.61% decline from 2020. The infant mortality rate for India in 2020 was 29.848 deaths per 1000 live births, a 3.48% decline from 2019. In 2022 in India 27.695 death per 1000 live birth, in Vidarbha 16 death per 1000 live birth (according to who).[2]

2020 Ayla Demirtas, gluten Guvenc, Ozlem Aslan, Vesile Unver, Tulay Basak, Cengiz university of health sciences turkey, Gullane faculty of Nursing, Ankara, turkey the study conclude that Nurses are the first healthcare professionals who assess the patient in cardiopulmonary arrest. Correct performed of cardiopulmonary resuscitation (CPR), based on guidelines, it is essential to optimizing patients' survival. Due to that CPR education is very important of Nurses and Nursing students. Nursing Students should be educated with the most current and acuter knowledge regarding resuscitation and be able to put this theoretical knowledge into practical. Skills may forget or tend to decrease over time. Therefore, repeating this courses twice in a year is recommended for nursing students. Satisfactory levels of theoretical as well as practical learning are attained after course or training however studies report that knowledge and skills.[3] Funda Kardas Ozdemir, Melis can Kesgin Gungor, a Ybike Merve Cici publisher: Elsevier Istanbul cardiopulmonary resuscitation developed in the year 1960; in spite of great

advancement since then, pediatric cardiopulmonary arrest is having poor prognosis. Despite it is often Cardiac arrest remains an important health problem due to its high mortality and morbidity rate management, the emotional, social and economic load it causes, and its differences with adult cardiac arrest (Corazza et al., 2020; Feinstein et al., 20120. Each year, >20,000 infants and children in the United States experience cardiac arrest, and >7000 infants and children were

reported to have an out of- hospital cardiac arrest in 2015 (mills et al., 2016; shimoda-sakano et al., 2020. The mortality rate is high in pediatric cardiac arrest, often observed outside the hospital. Early detection and prevention of risks, high-quality resuscitation, and post- cardiac arrest care can maximize the possibility of positive outcomes (morgan et al., 2021) [4] Yiqun Lin 1kidsim-aspire simulation research program, Alberta children's hospital, university of Calgary, Calgary, ab, Canada 31 march 2015 dealing with acute pediatric emergencies can challenging. Compared to the adults and children has anatomical and physiological differences that place additional demands on health care providers when caring for critically sick children. Pediatric health care providers require training opportunities to gain the knowledge and skills to appropriately manage children with critical illness and cardiac arrest. Pediatric resuscitation events are relatively rare, and trainees often have few opportunities to master procedures on real patients. With the help of simulation, it is very easy to develop skill & practice on real life situation.[5]

Allen R. De Daen ,2015 AHA, PALS teaches a systematic assessment approach so that the health care provider can quickly identify any life-threatening conditions and treat them. The PALS systematic approach algorithm begins with a quick initial assessment followed by checking for responsiveness, pulse, and breathing. PALS training gives medical professionals the unique information and abilities to react to pediatric emergencies. This includes performing pediatric-specific resuscitation, managing the airway, and dispensing the proper drugs.[6] A study was conducted on simulation in neonatal resuscitation; neonatal resuscitation is a high-risk, low- occurrence (halo) situation. Even in tertiary centers with highly experienced teams, resuscitation guidelines are not strictly adhered to in over 90% of cases. Simulation-based medical education has changed the way we teach and has been shown to be superior to the traditional approach to clinical teaching. Neonatal resuscitation programs now utilize simulation as a key component of their course content. Simulation allows for regular refreshers, deliberate practice and instant feedback where the learner is priority without the risk of jeopardizing

patient safety. As neonatologists, we have a responsibility, not only to our patients but to ourselves and our peers that we are all trained to the highest standard.[7]

OBJECTIVES

1. To assess the pretest and knowledge score regarding Pediatric Advanced Life Support (PALS) among the students of selected nursing colleges.
2. To evaluate the effectiveness of simulation on knowledge regarding Pediatric advanced (pals) life support among the students of selected nursing colleges.
3. To evaluate the effectiveness of video assisted teaching regarding Pediatric advanced (PALS) life support among the students of selected nursing colleges.
4. To compare the effectiveness of simulation verses video assisted teaching on knowledge regarding Pediatric advanced

life support (pals) among the students of selected nursing colleges.

5. To find out association of the study finding with selected demographic variables.

ASSUMPTION

Simulation was effective in improving knowledge regarding pediatric advanced life support (PALS) among students of selected nursing colleges as compare to video assisted.

MATERIAL AND METHODOLOGY

Study design: - Two arm interventional comparative study design Study setting: - selected Nursing colleges.

Participant: - Students of selected nursing colleges. Sample size: -50

FORMULA USED

The sample size formulae used are as follows:

$$n_1 = \frac{(\sigma_1^2 + \sigma_2^2 / \kappa)(z_{1-\alpha/2} + z_{1-\beta})^2}{\Delta^2}$$

Sampling Technique

Simple random Sampling Technique.

Hypothesis

H_1 - There is significant difference after pre-test and post-test knowledge score regarding Pediatric advanced life support after simulation verses video assisted teaching among students of selected Nursing colleges.

Inclusion Criteria

The dose have in this study the inclusion criteria is 4th semester B.Sc. Nursing students who were willingly participate,

Exclusion criteria

In this study the exclusion criteria is 4th semester B.Sc. Nursing students who were previously undergone of Pediatric Advanced Life Support

Variables

Research variable: simulation verses video assisted teaching. Demographic variable: -Age, Sex, Socio economic status,

Types of family.

DATA COLLECTION TOOLS

Section A: Demographic Data. Section B: self-structured questionnaire to assess the knowledge regarding Pediatric advanced life support.

Procedure And Data Collection

It is a precise systematic gathering of information relevant to the research purpose or the specific

objective or hypothesis of the study. The procedure for data collection is not a mechanical process that can be carefully planned prior to initiation.

The study was conducted only after the approval of Institutional Ethical Committee (IEC). Investigators were visiting the research area and obtained the necessary permission from the concerned authorities. Students of selected nursing colleges

who fulfill inclusion criteria were assigned to the study. Researcher were explaining the purpose of the study, taken informed written consent and a self-structured questionnaire were used to obtain demographics data of participants and scoring were used to the participants.

Validity over the scoring was established for build up through both the construct & content manner to seek for the results what has intended purposely for the inferences & conclusion to measure. Reliability of the questionnaire will be calculated by using appropriate statistical test.

Statistical analysis: -

This chapter deals with analysis and interpretation of the data collected from 50 samples who were nursing students. The present study has been taken up to assess the effectiveness of simulation versus video assisted teaching on knowledge regarding pediatric advanced life support among students of nursing colleges from selected nursing colleges. Analysis and interpretation is based on the objectives of the study. A structured questionnaire to collect the knowledge score was used for data collection. The analysis was done with the help of inferential and descriptive statistics.

RESULT

Comparison of mean difference in knowledge score of Simulation and Video Assisted Teaching method among Nursing students from selected nursing colleges.

Method	Mean	SD	t-value	p-value
Simulation Teaching	11.88	2.26	5.10	0.0001 S,p<0.05
Video Assisted Teaching	7.20	3.98		

Mean and standard deviation values are compared and student's unpaired 't' test is applied at 5% level of significance. The tabulated value for n=25+25-2 i.e. 48 degrees of freedom was 2.00. The calculated 't' value

i.e. 5.10 are less than the tabulated value at 5% level of significance for mean difference in knowledge score of Nursing students in Simulation and Video Assisted Teaching Method which is statistically acceptable level of significance. Hence it is statistically interpreted that Simulation versus Video Assisted Teaching method on knowledge regarding Pediatric Advanced Life Support among Nursing students from selected Nursing colleges of the was effective. Thus, the H_0 is rejected

The simulation- based approach demonstrated a greater impact, highlighting its effectiveness in providing hands-on, experiential learning. The discussion emphasizes the importance of interactive methodologies in nursing education and the need to incorporate simulation-based learning for better knowledge retention and skill development.

DISCUSSION

According to the premise, the level of p-value of 0.07, the regression analysis revealed.

CONCLUSION

Simulation-based teaching is more effective than video- assisted teaching in enhancing PALS knowledge among Nursing

students. It is recommended that nursing curricula integrate more simulation-based training to improve student preparedness for real-life pediatric emergencies. Future studies should explore long-term knowledge retention and practical skill application following these teaching interventions.

CONSENT AND ETHICAL APPROVAL

The study conducted after approval of Institutional Ethics Committee. Written consent taken from the participants for participation in the study. Throughout the Study, con identicality maintained.

Freedom to withdraw from the study at any point of time assured. The study findings disseminated to participants and published in a peer-reviewed journal

CONFLICT OF INTEREST

There is no conflict of interest in this study. No any risk factors to the subjects of the study

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