

A Pre-Experimental Study to Assess the Effectiveness of Video Assisted Teaching on Knowledge and Practice Regarding Care of Umbilical Vein Catheterization among Staff Nurses in Selected Hospitals of District Amritsar, Punjab

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ABSTRACT

BACKGROUND: The catheter for umbilical vein could be life-saving. The umbilical vein catheter is the extensively used central venous catheter in newborns. For premature and critically unwell neonates who require parenteral feeding, medication, and IV fluid arrangement, it can be clearly presented and is immensely beneficial. The catheter that is inserted in umbilical is a long, thin, empty tube that is placed into the umbilical vein following the severing of the cord. **AIM:** The main aim of the study to assess the effectiveness of video assisted teaching on knowledge and practice regarding care of umbilical vein catheterization among staff nurses in selected hospitals of district Amritsar, Punjab. **METHOD:** A pre-experimental research design was used for the study. It was conducted over 60 staff nurses by using non-probability sampling technique. Assessment was done by using self-structured questionnaire and self-structured checklist on care of umbilical vein catheterization. **RESULT:** Analysis showed that pre-test level of knowledge the majority of the staff nurses 51(85%) performed in the "inadequate Knowledge". A significant portion 9(15%) scored in the "moderately adequate Knowledge". There were no staff nurse in the "Adequate Knowledge". The post-test level of knowledge regarding care of umbilical vein catheterization among Staff nurses revealed that majority of (16-23 points) 46(76.70%) staff had moderately adequate knowledge regarding care of umbilical vein catheterization and 13(21.70%) had adequate knowledge and only 1(1.70%) had inadequate knowledge. In comparison pre-test and post-test level of knowledge revealed that pre-test mean knowledge score was

12.83±2.59 and post-test mean was 21.28±3.32 which was compared with using paired t test with calculated value (17.74 which was compared with using paired t test with calculated value (17.74 *Sig, p=<0.001 indicate highly significant. In pre-test majority 36(60.0%) had satisfactory practice and in post-test 58(96.70%) had satisfactory practice regarding care of umbilical vein catheterization. In comparison pre-test and post-test level of practice regarding care of umbilical vein catheterization among staff nurses revealed that pre-test mean practice score was 7.87±1.67 and post test mean was 10.13±1.64 which was compared with using paired t test with calculated value (7.68*sig, p=<0.001 indicate highly significant. **CONCLUSION:** there was a marked improvement in post test score than pre test score. It concludes that video assisted teaching was effective in enhancing knowledge and practice regarding care of umbilical vein catheterization among staff nurses. There was no significant association of post test knowledge and practice with their socio-demographic variables gender, age, marital status, education, year of experience and source of information. So null hypothesis is rejected.

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KEYWORDS: video assisted teaching programme, knowledge, practice, umbilical vein catheterization, staff nurses.

BACKGROUND OF STUDY

A premature birth weakens and hinders a baby's development. In the neonatal period, newborns (NBs) who are preterm (gestational age <37 weeks) and/or low birth weight (birth weight <2,500 g) are more frequently impacted by death and morbidity. The acceptance of modern technologies has helped to raise the survival rate of these newborns in the critical care facility for newborns (NICU), where they are frequently transported. Selecting the right intravenous therapy and catheter type depends on how severe the clinical condition is. An umbilical venous catheter (UVC) is placed into the umbilical cord's ductus venosus and umbilical vein. A chest x-ray shows the outermost portion of the catheter close to where Lower vena cava and right atrium (IVC) meet. It is located at T9–T10, above the diaphragm and beyond the liver. The catheter should not be placed in the ductus venosus or portal system (CWIUH 2015). Including anteroposterior, they might also think about a lateral chest X-ray. (AP) image (Rotunda Maternity Hospital 2013, Butler et al. 2014). A location of the portal venous system that is too deep in the right atrium⁴ and unintentionally delivering hypertonic fluid could result in hepatic necrosis.

METHODOLOGY

RESEARCH APPROACH

Quantitative research approach is adopted for current investigation to accomplish the objectives

RESEARCH DESIGN

Pre-experimental research design (One group pre-test and Post-test) is utilized for current study.

RESEARCH SETTING

It was carried out at selected Hospitals of Amritsar (K max hospital, Apollo hospital, new life hospital, and grace super-speciality hospital).

SAMPLE AND SAMPLE SIZE

The current study's sample size consisted of 60 staff nurses.

SAMPLING TECHNIQUE

In the present study Purposive sampling technique was used on staff nurses according to inclusion criteria.

SAMPLING CRITERIA:

Inclusion criteria:

- Staff nurses who were working in NICU in selected hospitals, Amritsar.
- Staff nurses who were willing to participate.
- Staff nurses who are present at the time of data collection.

Exclusion criteria:

- Staff nurses who were working in other departments of hospitals.

Study instrument

Self-structured questionnaire were used to assess knowledge and self- structured checklist were used to assess practice regarding care of umbilical vein catheterization among staff nurses

ETHICAL CONSIDERATION

Approval from ethics panel of Sri Guru Ram Das nursing college, Pandher, Amritsar was obtained for the research study. Prior to data collection, written approval was attained from the relevant authority of selected Hospitals of Amritsar, Punjab. Informed aggrement was acquire from the participants. Anonymity and confidentiality of subjects was maintained

PILOT STUDY

Pilot study was carried out at k max hospital of Amritsar. It was conducted on the 06 sample of staff nurses. Permission was sought from head of department of paediatrics. Pretest knowledge questionnaire was given and practice was observed and they took 30 minutes to complete the test, immediately video assisted teaching program was implemented for 15 minutes. Post test was conducted after 7 days by using same questionnaire and practice checklist.

DATA COLLECTION

The information was collected from the nursing personnels working in selected Hospitals Amritsar, Punjab. Pretest data was collected and video based instructional programme on care of umbilical vein catheterization was stated to the nurses for 30 minutes. When the teaching programme given after one- week post- test data was collected from the staff nurses after 7 days of interventions.

PLAN FOR DATA ANALYSIS

The data was analyzed in compliance with study objectives by using analytical statistics. statics was calculated. paired t test was employed to test the significance between before-test and after-test score. Chi-square test was employed to test the relation between knowledge score and socio demographic variables.

RESULT

It represents the descriptive statistics of pre- test knowledge level and practice. It was discovered mean score of knowledge is 12.8 with a standard deviation of 2.59. the maximum possible score is 30, resulting in a range of 6-18. the mean percentage is 42.78.

The descriptive statistic of pre -test practice revealed that the mean value was 7.9, maximum score was 15, standard deviation was 1.67 and mean percentage was 52.44.

represent the statics of after- test level of knowledge. It was discovered that after-test knowledge data for 60 participants shows a mean score of 21.3 with a standard deviation of 3.32. the maximum possible

score is 30 resulting in a range of 14-28. The mean percentage is 70.94%.

The descriptive statistics of after test degree of proficiency revealed that the mean value was 10.1, maximum possible score was 15, range of score was 7-14, standard deviation was 1.64 and mean percentage was 67.56.

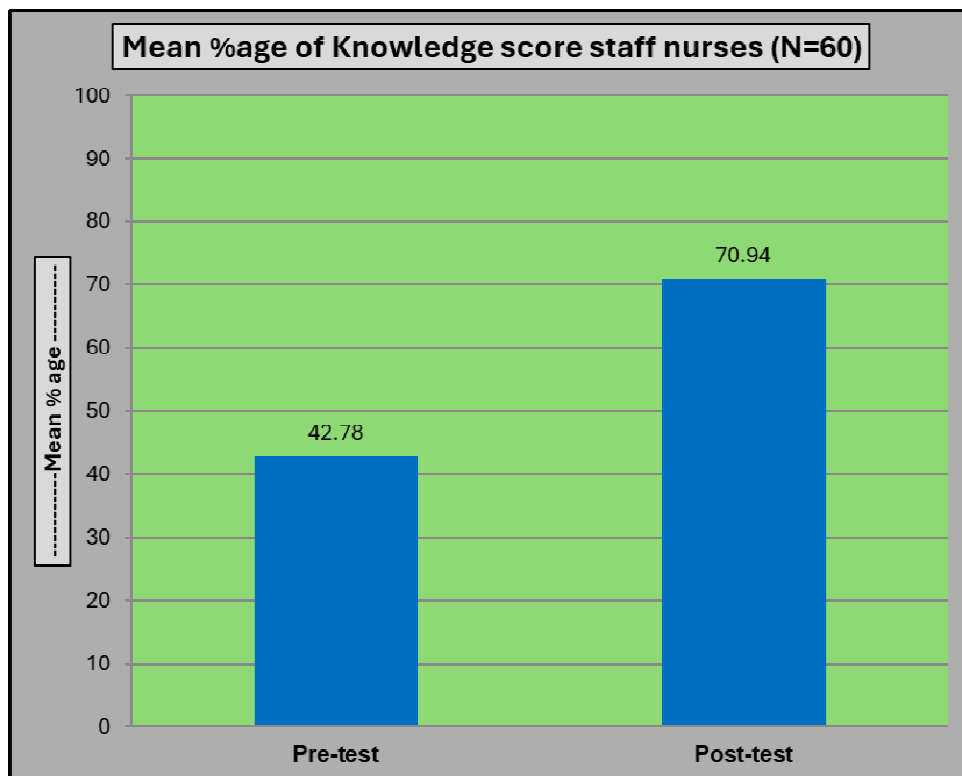


diagram show the comparison of mean percentage of pre-test and post-test level of knowledge.

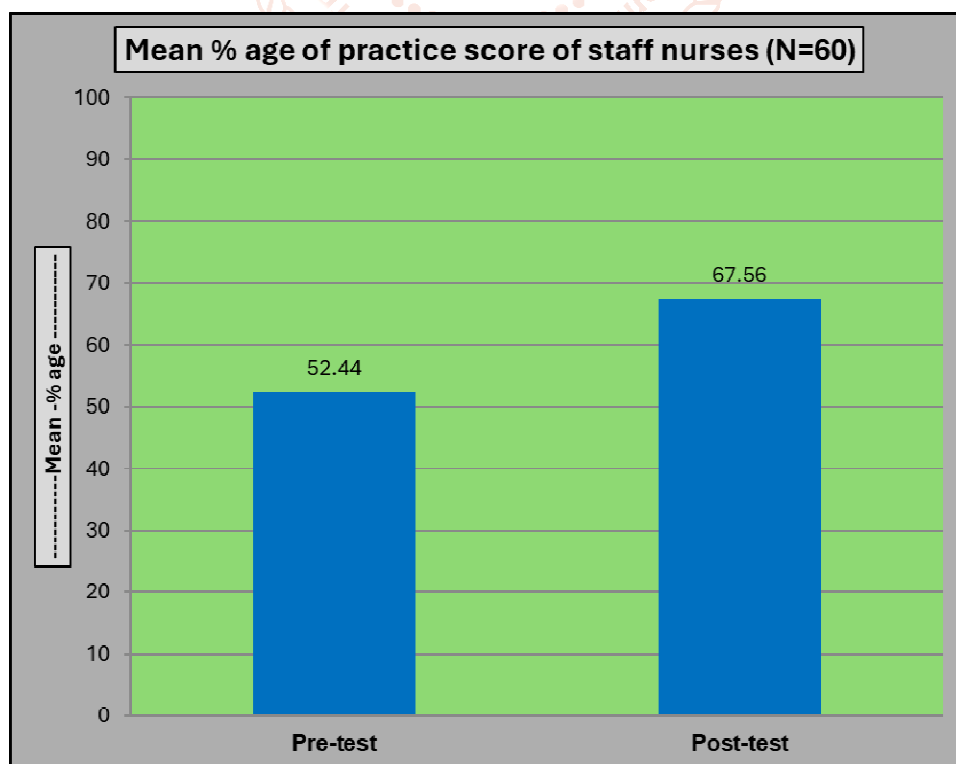


Figure 4(b): shows the mean percentage of pre-test and post-test practice scoring.

CONCLUSION

It was concluded that the video based instructional programme was good in update the after-test level of understanding among nursing officers regarding care of umbilical vein catheterization so null hypothesis is rejected at $p < 0.001$.

It was terminated that the video-based instructional programme was effective in improving the post-test level of practice among registered nurse regarding care of umbilical vein catheterization so null hypothesis is rejected at $p < 0.001$.

RECOMMENDATIONS

The study's findings support the following suggestions:

- A high sample size can be used for the investigation.

Prospective, Randomized Controlled Trials:

Conduct well-designed trials to compare different UVC insertion techniques, insertion depths, or dwell times.

Quality Improvement Projects:

Implement and evaluate quality improvement projects within neonatal units to optimize UVC use and reduce complications.

Observational Studies:

Conduct observational studies to analyse UVC-related complications, infection rates, and outcomes in specific populations (e.g., premature infants, critically ill neonates).

- The purpose of the study is to evaluate how well demonstrations of knowledge and practice about umbilical vein catheterization care work.

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Nil

CONFLICT OF INTEREST: There are no conflict of interest.

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