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A STUDY TO EVALUATE THE EFFECTIVENESS OF VIDEO ASSISTED TEACHING PROGRAMME ON KNOWLEDGE REGARDING ARTERIAL BLOOD GAS ANALYSIS AMONG STAFF NURSE WORKING IN SELECTED HOSPITAL, KRISHNAGIRI DISTRICT

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ABSTRACT

A study to evaluate the effectiveness of video assisted teaching programme on knowledge regarding arterial blood gas analysis among staff nurse working in selected hospital, krishnagiri District using quantitative research approach with quasi experimental design, Pre-test and posttest control group design The study was conducted among 60 staff nurse working in selected hospital , who were selected by purposive sampling techniques from Kauvery Hospital, Hosur and Jeeva hospital krishnagiri for Research setting. Data was collected. A close ended questionnaire was used to assess the level of knowledge among staff nurse regarding arterial blood gas analysis. The investigator taught to the staff nurse regarding arterial blood gas analysis by using video teaching programme. After video assisted teaching programme, on the 7th day post-test was conducted. Data was analyzed by using descriptive and inferential statistics. In study group according to level of knowledge in posttest, among the staff nurses 22(73.3%) of them had adequate knowledge, 8(26.7%) of them had moderate adequate knowledge and none of them inadequate knowledge in study group. Whereas in control group level of knowledge in posttest, among the nurses 21(70 %) of them had adequate knowledge, 9(30 %) of them had moderately adequate knowledge and none of them inadequate knowledge In Post test, study group the mean value was 39.4 and standard deviation was 6.9 and in control group the mean value is 25.7 and standard deviation was 8.7. The calculated value of t was 7.8 which is greater than table value, it is noted that there was a highly statistical difference between study and control group. Hence H1was accepted. Chi-square analysis was used to test in study group, there is significant association ($p \leq 0.05$level) between the posttest level of knowledge regarding arterial blood gas analysis among staff nurse working in hospital with their selected socio demographic variables such as age, gender, qualification and year of experience had association with level of knowledge. Hence hypothesis (H2) was accepted. Chi-square analysis was used to test in control group, there is significant association ($p \leq 0.05$level) between the posttest level of knowledge regarding arterial blood gas analysis among staff nurse working in hospital with their selected socio demographic variables such as year of experience and area of experience had association with level of knowledge. Hence hypothesis (H2) was accepted. Overall, the study confirmed that

		the assumption which was formulated at the beginning was factual and the study was effective in improving their knowledge of the study would be significant difference in the level of knowledge of arterial blood gas analysis among staff nurse at Jeeva hospital- krishnagiri and kauvery- hospital, Hosur. The present study result showed that in pretest majority of the patients had inadequate knowledge and after the video assisted teaching programme the knowledge was improved among staff nurse. So, this study proved that significant difference was there between pretest, posttest knowledge and also found that video assisted teaching programme was effective in improving the knowledge on arterial blood gas analysis among staff nurse.

INTRODUCTION

Normal function of body cells depends on regulation of the hydrogen (H+) concentration within very narrow limits. If the H+ levels exceed these normal limits acid-base imbalances result and are recognized clinically as abnormalities of serum P(H). Because of acid-base imbalances may be caused by disorders of any body system. Their incidence in clinical settings is quite high. The status of acid-base homeostasis may be monitored clinically through the serial measurement of arterial blood gases (ABGs) among the parameters reported are P(H), PaCo2 and HCo3.

These disorders are not clinical diagnosis or diseases in themselves rather than, they are clinically syndromes, associated with a wide variety of diseases. Wiegand DL,2021. These values may be used to determine the presence of type of acid base imbalances and evaluate the level of compensation.

Circulatory system is a group of organs that transport blood and the substances to all parts of the body. The circulatory system can be considered as composed of two parts like systemic and pulmonary circulation. Systemic circulation which serves for the body as a whole except for the lungs and pulmonary circulation, which carries the blood to and from the lungs. The organ of circulatory system consists of vessels that carry the blood and a muscular pump the heart that drives the blood. Red blood cells transport oxygen and carbon dioxide blood gases throughout the body. The level of oxygen and carbon dioxide and pH and its imbalances in our blood can indicate the presence of certain medical condition such as cardiac, lung or kidney disorders. Anita Kumari, 2020.

Statement of the Problem

"A study to assess the effectiveness of video assisted teaching on knowledge regarding arterial blood gas analysis among staff nurses working in selected hospital krishnagiri District".

Objectives of the Study

- To assess the pretest knowledge regarding Arterial blood gas analysis among staff nurse in study and control group.
- To assess the effectiveness of video assisted teaching on knowledge regarding Arterial blood gas analysis among staff nurse in study and control group.
- To compare the pretest and post-test knowledge of study and control group regarding Arterial blood gas analysis.
- To find out the association between the post knowledge on Arterial blood gas analysis among staff nurse in study group and control group with selected demographic variables.

Hypothesis:

H1 – There is significant difference between posttest level of knowledge on Arterial blood gas analysis among staff nurse in study and control group.

H2 - There is significant association between post test level of knowledge on Arterial blood gas analysis among staff nurses with selected demographic variables in study group and control group.

Assumptions

- The newly appointed staff nurses are having inadequate knowledge regarding Arterial Blood gas (ABG) analysis.
- Video assisted teaching on knowledge of Arterial Blood gas (ABG) analysis will improve the knowledge of staff nurses.

Limitations

1. The study is limited to 4 weeks period only.
2. The study is not generalized since it includes only the staff nurses who are working in selected hospitals, Krishnagiri District.
3. The study is limited to sixty samples only. Study group 30 samples and control group 30 samples
4. The study is used by non-standardized tool.

Review of Literature

Review of Literature related to Arterial Blood Gas [ABG] Analysis.

Review of Literature related to effectiveness of video Assisted Teaching Programme [VATP] on Arterial

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Blood Gas (ABG) Analysis.

Criteria for Sample Selection

Inclusion Criteria

- All registered staff nurse who completed diploma or degree in nursing.
- Willing to participate in study.
- Staff nurses present during the day of data collection.

Exclusion Criteria

- Staff nurses who are on night shift.
- Staff nurses who are in leave.
- Staff nurses who are not willing to participate in this study.

Variables

- A variable is a symbolic representation of data that can be used to store and reuse values. Variables can be used in math, statistics, programming, and research.
- Variables are the qualities, properties or the characteristics of the person, things or situation that change or vary. The variables mainly include in this study are independent and dependent variables. Dependent variables explain the effect of independent variables.

Independent variables: Video Assisted Teaching Programme on ABG Analysis.
Dependent variables: Knowledge of Staff Nurses.
Extraneous Variables: Age, gender, qualification, year of experience & area of experience.

Development of Data Collection Instrument

The major task of the researcher is to develop instrument that accurately and precisely to measure the variables of interest. Questioning allows the gathering of large sample. Relatively quickly and inexpensively. It avoids interviewer bias, offers, anonymity and the cost-effective data collection method, that is self-report. To assess the knowledge of staff nurses a questionnaire was prepared based on objectives of the study by the investigator, after reviewing and considering literature on ABG analysis, based on the opinion of the nursing and medical experts.

Data Collection Instrument

Data collection instrument used was

- Structured questionnaire [Pre-test and Post-test]
- Video Assisted teaching programme

Table 1 shows that, during pre-test mean value was 16.9 and standard deviation was 6.5, In post test mean value was 39.4 and standard deviation was 6.97. The calculated value of t was 13.3 which is greater than table value, it is noted that there was a highly significant between pre and post test score, so there is effectiveness on video assisted teaching programme on knowledge regarding Arterial Blood Gas in study group.

Table 2 shows that, during pre-test mean value was 18.7 and standard deviation was 7.7, In post test mean value was 25.7 and standard deviation was 18.7. The calculated value of t was 3.7 which is less than table value, it is noted that there is no significant between pre and post test score in control group.

Table 3 shows that, in study group the mean value was 39.4 and standard deviation was 6.9 and in control group the mean value is 25.7 and standard deviation was 8.7. The calculated value of t was 7.8 which is greater than table value, it is noted that there was a highly statistical difference between study and control group. Hence $H_1$was accepted.

The table 4reveals that in study group, there is significant association ($p \leq 0.05$level) between the post test level of knowledge regarding arterial blood gas analysis among staff nurse working in hospital with their selected socio demographic variables such as age, gender, qualification and year of experience had association with level of knowledge. Hence hypothesis (H_2) was accepted.

The table 4 reveals that there is no significant association ($p \leq 0.05$level) between the post test level of knowledge regarding arterial blood gas analysis among staff nurse working in hospital with their selected socio demographic variables such as Area of experience had no association with level of knowledge. Hence hypothesis (H_2) was rejected.

The table 5reveals that in control group, there is significant association ($p \leq 0.05$level) between the post test level of knowledge regarding arterial blood gas analysis among staff nurse working in hospital with their selected socio demographic variables such as year of experience and area of experience had association with level of knowledge. Hence hypothesis (H_2) was accepted.

The table 5 reveals that there is no significant association ($p \leq 0.05$level) between the post test level of knowledge regarding arterial blood gas analysis among staff nurse working in hospital with their selected socio demographic variables such as age, gender and qualification had no association with level of knowledge. Hence hypothesis (H_2) was rejected.

Table 1: Comparison of pre and post level of knowledge with mean, standard deviation among staff nurses in study group.

S. No	Test	Mean	SD	't'	Table value
1	Pretest	16.9	6.5	13.3	2.045
2	Posttest	39.4	6.9		

Table 2: Comparison of pre and post level of knowledge with mean, standard deviation among staff nurses in control group.

S. No	Test	Mean	SD	't'	Table value
1	Pretest	18.7	7.7		
2	Posttest	25.7	8.7	3.7	2.045

Table 3: Comparison of post level of knowledge with mean, standard deviation among staff nurses in study and control group.

S. No	Test	Mean	SD	't'	Table value
1	Study group	39.4	6.9		
2	Control Group	25.7	8.7	6.8	2.000

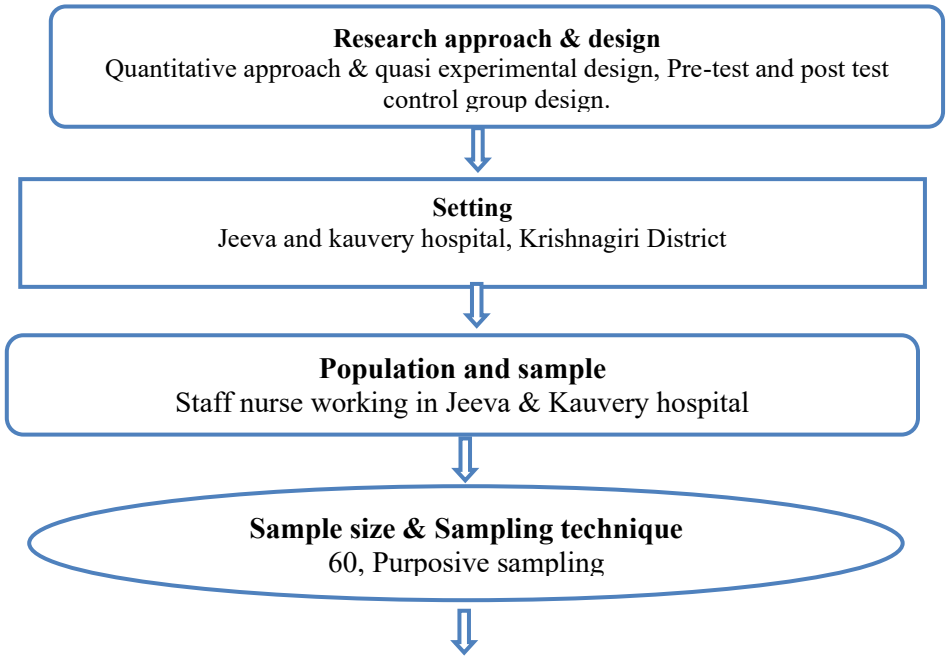
Table 4: Association between post test level of knowledge with selected demographic variables among staff nurses in study group.

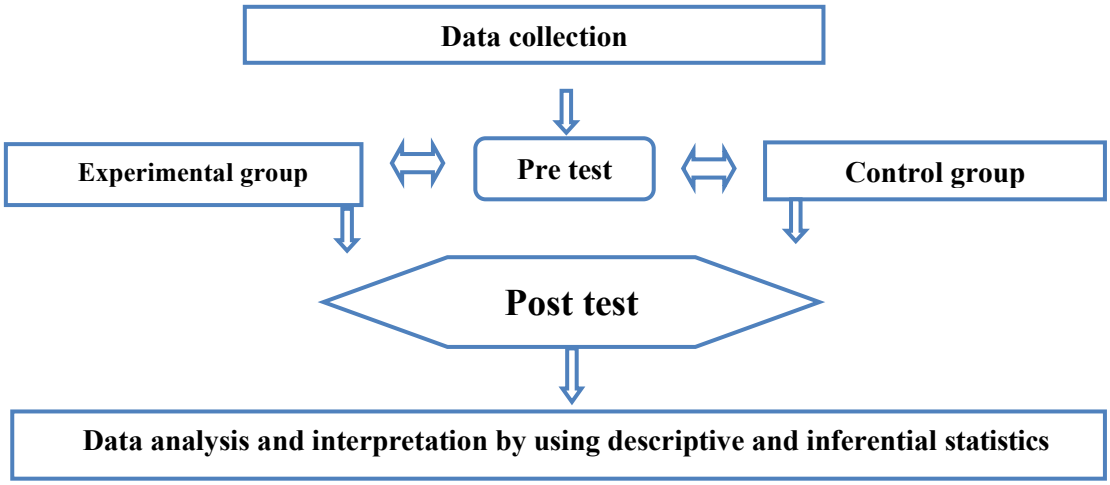
Sl. No	Variables	chi-square	df	Table value	Significant
1	Age	32.9	2	5.991	**S**
2	Gender	51	1	3.841	**S**
3	Qualification	6.84	2	5.991	**S**
4	Year of experience	8.7	2	5.991	**S**
5	Area of experience	5.8	2	5.991	**NS**

Table 5: Association between post test level of knowledge with selected demographic variables among staff nurses in control group.

Sl. No	Variables	chi-square	df	Table value	Significant
1	Age	3.2	2	5.991	**NS**
2	Gender	1.4	1	3.841	**NS**
3	Qualification	5.6	2	5.991	**NS**
4	Year of experience	9.1	2	5.991	**S**
5	Area of experience	8.4	2	5.991	**S**

Figure 1: Schematic Presentation of research methodology.





SUMMARY:

This chapter represents a brief summary of the study conclusions and implications for nursing and recommendations. The purposive sampling was used for selecting the sample. In this study review of literature was general information on ABG analysis and these studies related to knowledge of ABG analysis.Descriptive statistics (frequency, percentage, mean and standard deviation, inferential statistics Chi-Square was used to analyse the data and to test the hypothesis.The primary aim of the study was to identify the level of knowledge regarding arterial blood gas analysis after administration of video assisted teaching programme in the study group and find the association between knowledge of staff nurses and demographic variables of staff nurses.

CONCLUSION

From the findings of the present study, it was concluded that the level of knowledge regarding arterial blood gas analysis among the staff nurses was inadequate among study group and control group during pretest assessment. However, the findings of post test in the study group, the level of knowledge has improved and the score has indicated an adequate level of knowledge among staff nurses. The improvement in the level of knowledge is due to the administration of the video assisted teaching programme. Therefore, the knowledge of the staff nurses can be further be improved by a going teaching and in service education.

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