Effectiveness of Structured Teaching Programme on Knowledge Regarding Abg Analysis Among Staff Nurses

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Abstract: *A research study entitled "A study to assess the effectiveness of Structured Teaching Programme on knowledge regarding ABG analysis among staff nurses working in selected hospital, Bangalore" was conducted. The objective of the study was to identify the knowledge among staff nurses on ABG analysis.*
The research approach was evaluative approach and the design was pre-experimental design. Purposive sampling technique was used for this study. Data were collected using structured knowledge questionnaire. Content validity was established and modifications was made based on the experts suggestions. Reliability was established for the research tool and was found to be reliable (r=0.85). Study was conducted among 40 staff nurses who fulfilled the sampling criteria the study was found to be feasible. Structured teaching programme was administered. Data were collected using demographic proforma as well as structured knowledge questionnaire. The subjects are assured anonymity and confidentiality of the information provided by them and written informed consent was obtained. The pre-test was conducted by administering the Structured Knowledge Questionnaire followed by STP in two sessions on ABG analysis and interpretation. On the 7th day post test was conducted by using the same tool. Each subject took 45 minutes to complete the knowledge questionnaire. Descriptive and inferential statistics with the help of SPSS version 20.0 was used for analysis of data. The Pre-test knowledge score obtained by the staff nurses was 16.25. After administering STP post test mean knowledge score increased to 29 with value of 25.65 and found to be significant at the level of P<0.001 which evidenced that the developed STP was in increasing the knowledge of staff nurses. Hence the research hypothesis stated that there will be significant difference between the pre- and post-test knowledge scores of staff nurses regarding ABG analysis was accepted. It has been found that age, sex; years of experience of nurses have significant association with pre-test knowledge level. Hence the research hypothesis stated that there will be significant association between the pre test knowledge score with selected demographic variables was accepted. There is significant association found between years of experience of nurses with post-test knowledge level. Hence the research hypothesis stated that there will be significant association between the post test knowledge score with selected demographic variables was rejected.
Key Words: *Assessment, Knowledge, ABG analysis, Staff nurse*

I. Introduction

Health is a dynamic phenomenon and a process of continuous change to frequent variations. Illness refers not only to the present of specific disease, but also the perceptions and behavior in response to the disease. Various diagnostic procedures help to identify the disease and screen the abnormalities. Among of all diagnostic procedures interpretation of Arterial Blood Gas analysis (ABG) is very important and need an essential skill for the nurses to interpreting ABG result.

NEED FOR THE STUDY

Adequately trained nurse can interpretation ABG result correctly and changes in the condition of the patient immediately. This will result in quicker responses and help to reduce the number of avoidable deaths and duration of hospital stay.

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of Structured Teaching Programme on knowledge regarding ABG analysis among staff nurses working in selected hospital, Bangalore.

OBJECTIVES OF THE STUDY

1. To assess the knowledge of staff nurses regarding arterial blood gas analysis in terms of pre test knowledge score.
2. To administer a structured teaching programme on arterial blood gas analysis among nurses.

3. To determine the effectiveness of structured teaching programme by comparing the pre and post test knowledge score.
4. To find out the association between knowledge score with selected demographic variables.

HYPOTHESES

- **H₁**: There will be significant difference between the pre and post test knowledge score of staff nurses regarding ABG analysis.

- **H₂:** There will be significant association between knowledge score with selected demographic variables of staff nurses regarding ABG analysis

RESEARCH METHODOLOGY

- **Research approach** – Evaluative approach
- **Research design** – Pre-Experimental design
- **Research setting** – Wockhardt hospital, Bangalore
- **Population** – Staff nurses
- **Sample and sample size** – 40 subjects
- **Sampling technique** – Purposive sampling technique
- **Study instruments used** – Tool 1: Demographic variables
  Tool 2: Questionnaire to measure the knowledge
- **Intervention used** – Structured Teaching Programme on knowledge regarding ABG analysis
- **Procedure for data collection** - The subjects are assured anonymity and confidentiality of the information provided by them and written informed consent was obtained. The pre-test was conducted by administering the Structured Knowledge Questionnaire followed by STP in two sessions on ABG analysis and interpretation. On the 7th day post test was conducted by using the same tool. Each subject took 45 minutes to complete the knowledge questionnaire.
- **Plan for data analysis** - Descriptive and inferential statistics with the help of SPSS version 20.0 was used for analysis of data

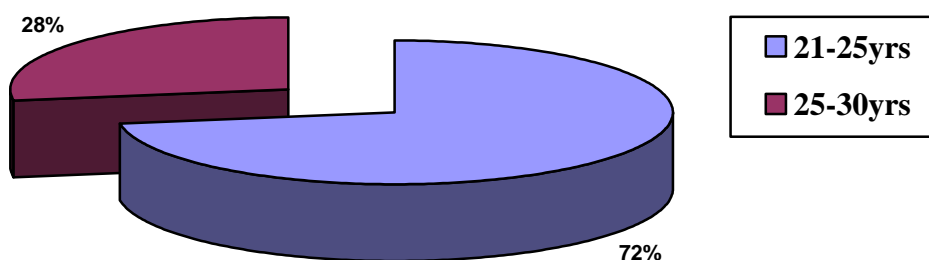## II. Results
DEMOGRAPHIC PROFILE OF STAFF NURSES

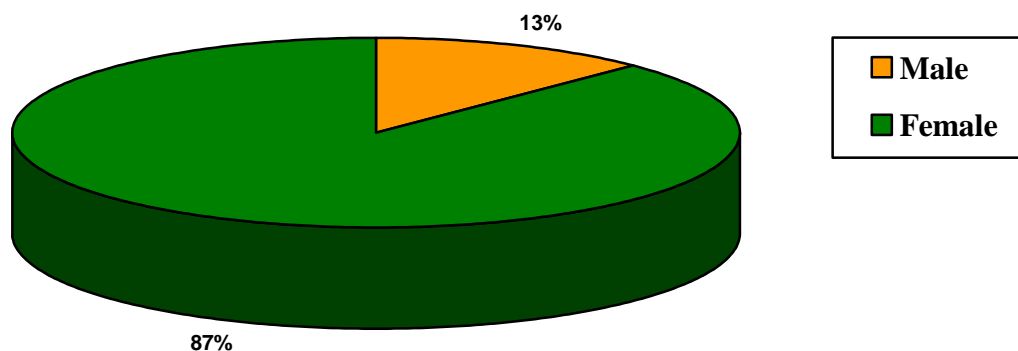**Fig. 1: Distribution of Age among subjects**

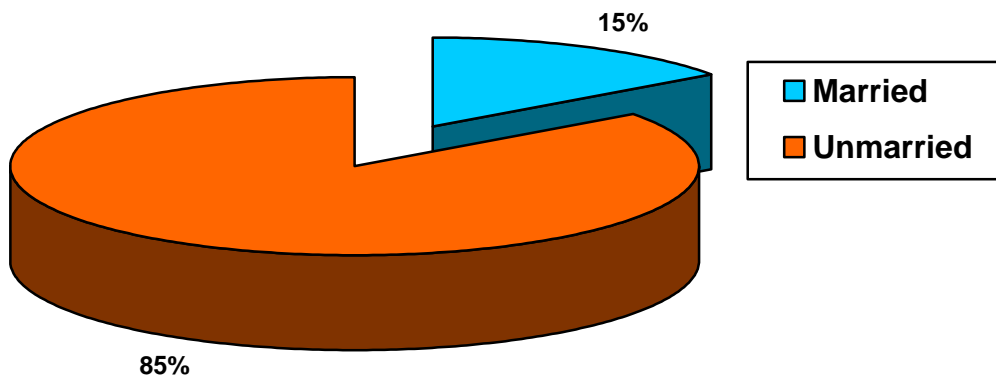**Fig. 2: Distribution of Sex among subjects**

Fig. 3: Distribution of Marital Status among subject
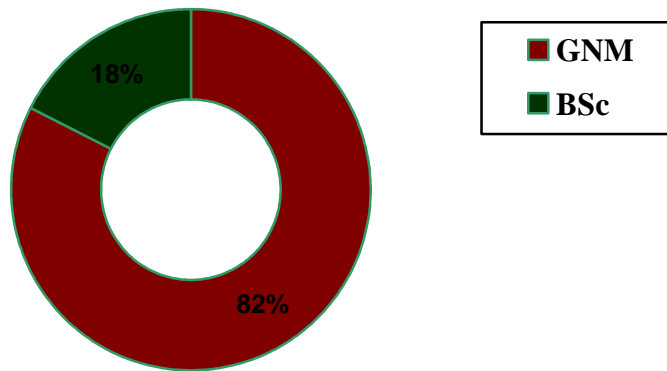

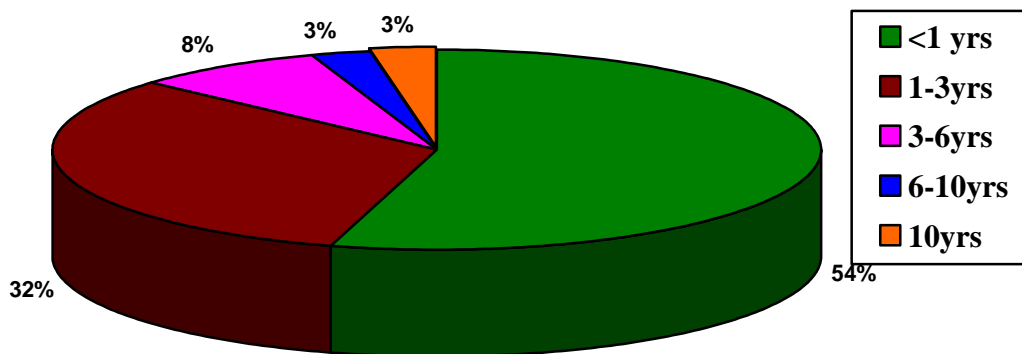**Fig.4: Distribution of subjects by Professional Qualification**

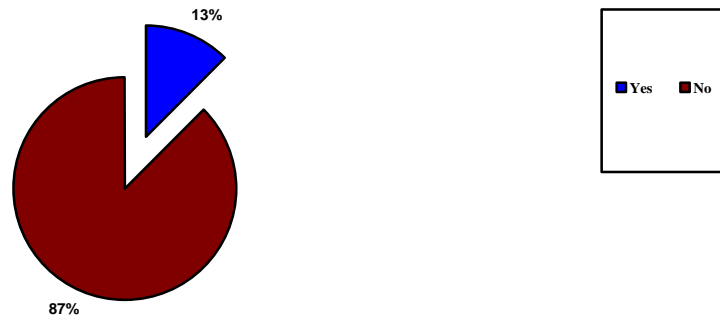**Fig. 5: Distribution of subjects by Years of experience**

13%

87%

Fig. 6: Distribution of subjects by In-service education on ABG analysis

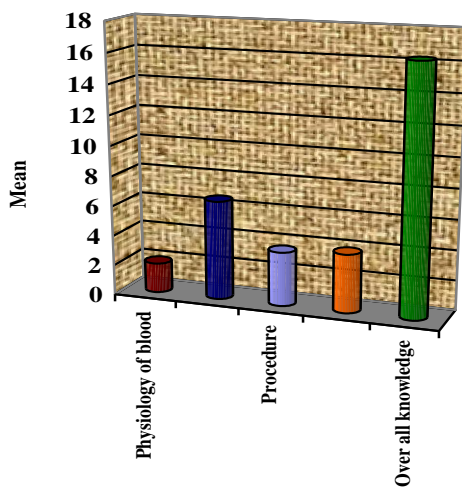**KNOWLEDGE OF STAFF NURSES REGARDING ABG ANALYSIS IN THE PRE AND POST-TEST**

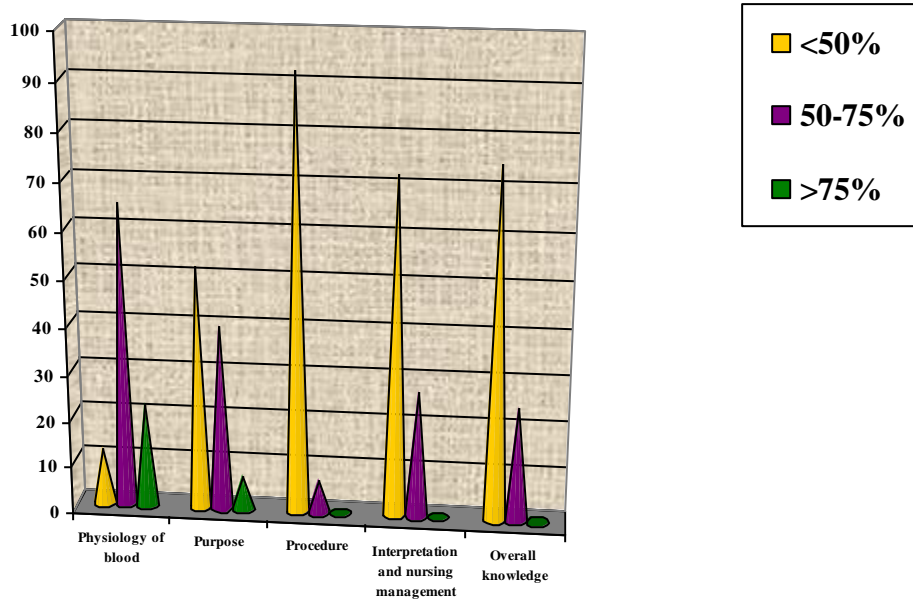**Fig.7: Distribution of mean knowledge score in the pre-test**

Fig. 8: Distribution level of knowledge among staff nurses in the pre-test

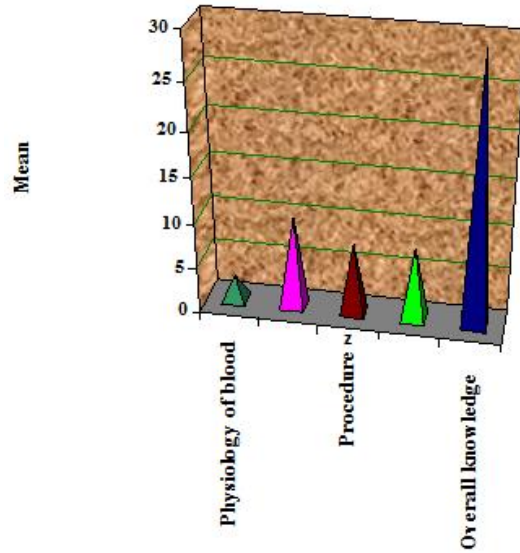**Fig. 9: Distribution of mean knowledge score in the post-test**
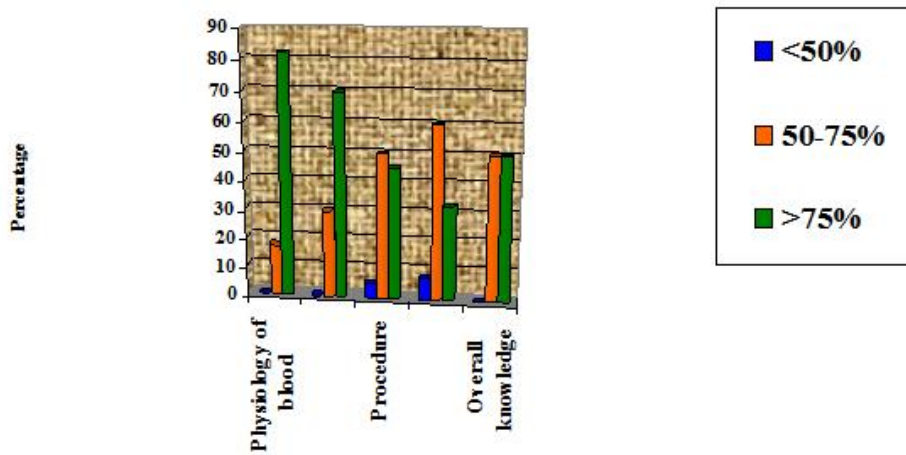

Fig.10: Distribution of level of knowledge among staff nurses in the post-test
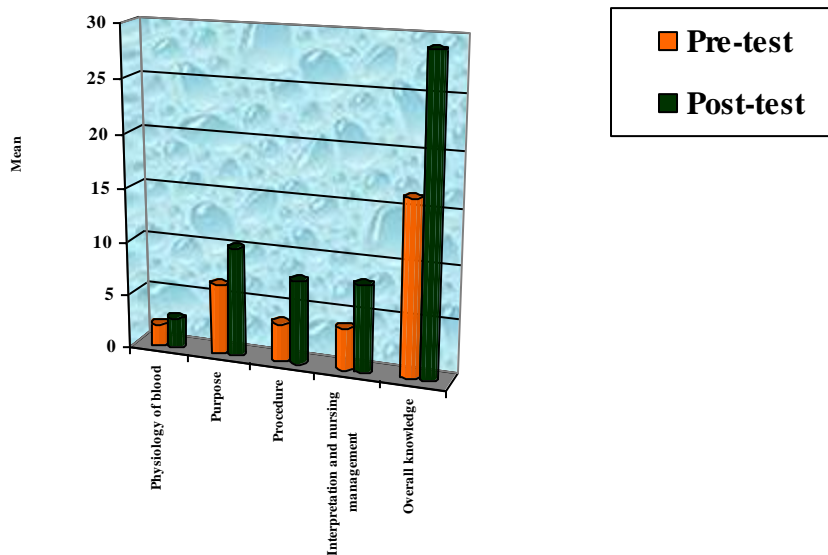

Fig 11: Comparison of pre and post-test knowledge among staff nurses

The Pre-test knowledge score obtained by the staff nurses was 16.25. After administering STP post test mean knowledge score increased to 29 with value of 25.65 and found to be significant at the level of $P<0.001$ which evidenced that the developed STP was in increasing the knowledge of staff nurses. Hence the research hypothesis stated that there will be significant difference between the pre- and post-test knowledge scores of staff nurses regarding ABG analysis was accepted. It has been found that age, sex; years of experience of nurses have significant association with pre-test knowledge level. Hence the research hypothesis stated that there will be significant association between the pre test knowledge score with selected demographic variables was accepted. There is significant association found between years of experience of nurses with post-test knowledge level. Hence the research hypothesis stated that there will be significant association between the post test knowledge score with selected demographic variables was rejected.

III. Conclusion

The present study attempted to assess the effectiveness of STP on ABG analysis among staff nurses in Wockhardt Hospital, Bangalore was found that the developed STP was effective in improving the knowledge of staff nurses regarding ABG analysis.

References

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