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A study to assess the effectiveness of interpretive exercise in improving the interpreting ability on common blood investigation among B.Sc. nursing students at selected college of nursing at Chennai

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Abstract

Florence Nightingale (1860) opened that observation and interpretation were hallmark of nursing practice. Interpretive ability of common blood investigations which include CBC, Serum electrolytes, lipid profile, ABG analysis and hormonal test not only allows nurses to rule out patients' diagnosis but also supports the examination of widespread possibilities. Therefore, the aim of the study to assess the effectiveness of interpretive exercise in improving the interpretive ability among B.Sc. nursing second year students. A pre-experimental one group pretest post-test research design was adopted for the study among 60 BSc nursing second year students were selected using simple random sampling technique. Semi structured questionnaire was used to assess the level of knowledge and observational check list was used to assess the level of practice regarding interpretive ability and interpretive exercise session was conducted to the students for about 45 minutes which was followed by the post test. The study findings showed that the pre test on knowledge and practice mean score was 17.60 and 13.68 respectively with standard deviation of 3.85 and 3.96 in each variable. And posttest on knowledge and practice mean score was 34.04 and 21.06 with standard deviation of 1.54 and 0.77 respectively. The paired 't' value was 32.310 and 12.590 which revealed that there was a highly statistically significant difference between the pre test and post test level of knowledge and practice at $p < 0.05$.

Keywords: Interpretive exercise, Interpretive ability, B.Sc. nursing second year students

Introduction

Florence Nightingale (1860) opened that observation and interpretation were hallmark of nursing practice. Nurses usually assume the responsibility for ensuring the appropriate sample collection and labeling and delivering them to the laboratory for analysis. Interpretive ability of blood investigations not only allows nurse to outpatient diagnosis but also essential for safe patient care. Complete blood count (CBC) play an important role in blood investigation where CBC is an important hematological test used routinely in clinical decision making whenever a patient access to a medical facility.

Interpretive ability of common blood investigations which include CBC, Serum electrolytes, lipid profile, ABG analysis and hormonal test not only allows nurses to rule out patients' diagnosis but also supports the examination of widespread possibilities. One of the study shows that median of interpretive ability score on common haematological tests was 13 and the interquartile range of 25th and 75th percentile was 11 and 14 respectively. The maximum score obtained by the students was 22 and minimum score was 4.

The researcher's clinical experience found that the nurses take an active part in collecting the lab investigation, but their ability to interpret reports were lacking. Therefore, the ability to notice the variations and application of suitable interventions are exceedingly essential for nurses. Nurses with good critical thinking ability can provide better nursing care. By combining these two aspects, the present study was taken up. The aim of the study was to how well the interpretive exercises which a brief lecture given regarding CBC, Serum electrolytes, lipid profile, ABG and Hormonal test for women, an evaluation tool can be effectively used as a teaching tool to improve the interpretive ability of basic B.Sc. nursing students on selected lab investigations which include CBC, Serum electrolytes, lipid profile

ABG and Hormonal test for women to equip the 'future staff nurses' with an advanced knowledge and skill in this area.

Statement of the problem

A study to assess the effectiveness of interpretive exercise in improving the interpretive ability on common blood investigation among B.Sc. nursing students in selected college of nursing at Chennai.

Objectives

1. To assess the pre- test and post-test level of interpretive ability on common blood investigation among B.Sc. nursing students.
2. To determine the effectiveness of Interpretive exercise session on interpretive ability on common blood investigation among B.Sc. nursing students
3. To associate the pre-test and post- test level of interpretative ability on common blood investigation of B.Sc. nursing students with their selected demographic variables.

Methodology

A quantitative research approach was adopted for the study. A pre-experimental one-group pre-test post-test design was selected. The research was conducted at Madha College of Nursing situated in Kundrathur, Chennai. After obtaining the consent from the HOD and students, the data collection procedure was started. There are 60 B.Sc. nursing second year students who were selected by a simple Random sampling technique who fulfil the inclusion criteria. The tool used for the study was a semi-structured questionnaire

that consisted of 40 multiple-choice questions regarding interpretive ability and the correct answer carries 1 mark. The total score was 40, and an observational checklist was used to assess the level of practice regarding interpretive ability after the interpretive exercise session, which consisted of common blood investigation including CBC, serum electrolytes, lipid profile, ABG analysis and hormonal test on the students for 45 minutes. A post-test was conducted to assess the interpretive ability of common blood investigation using an observational checklist.

Results and Discussion

The data collected was analysed using descriptive and inferential statistics. Majority of students with regard to age, 36(72%) were between 18 years and 36(72%) were aged 19 years. Regarding the gender, 40(80%) were female and 10(20%) were male. The findings pertaining to knowledge about common blood investigation revealed that, 38(76%) had previous knowledge and 12(24%) did not have adequate knowledge interpreting blood results with regard to experience of blood collection, 39(78%) had experience in blood collection and 11(22%) did not do the same.

The first objective was to assess the pre- test and post- test level of interpretive ability on common blood investigation among B.Sc. nursing second year students

The pretest, 36(72%) had inadequate knowledge and 14(28%) had moderately adequate knowledge and in the post test after the interpretive exercise session, 49(98%) had adequate knowledge and only one (2%) had moderately adequate knowledge on interpretive ability.

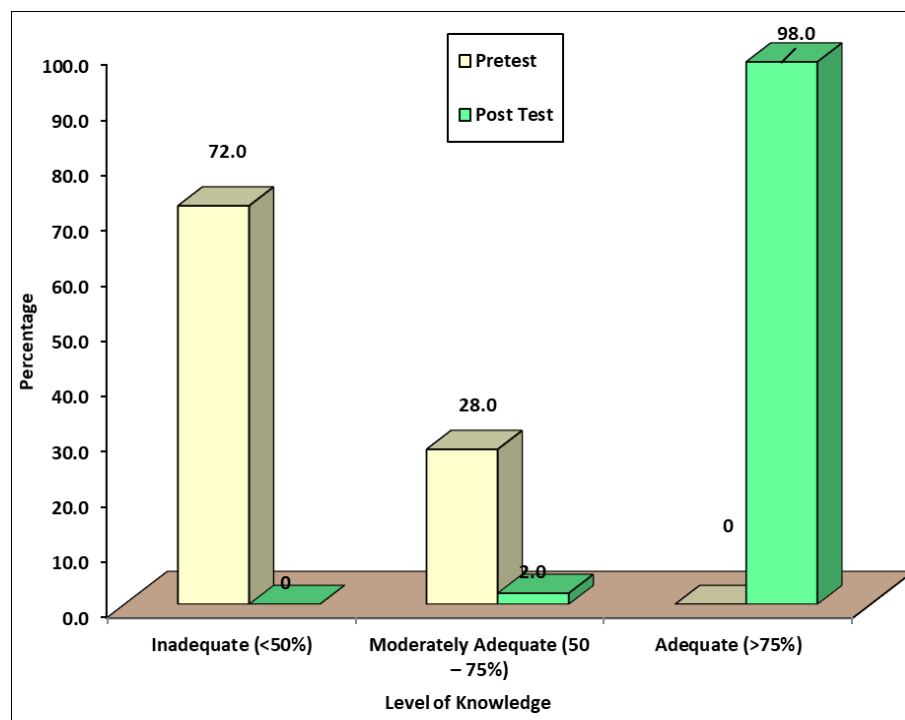


Fig 1: Percentage distribution of pretest and posttest knowledge on interpretive ability on common blood investigation of B.Sc nursing second year students

Pretest level and posttest of practice revealed that in the pretest, 35(70%) had good practice, 13(26%) had fair level of practice and 2(4%) had very good practice and in the post

test after the intervention, 50(100%) had very good practice on interpretive ability.

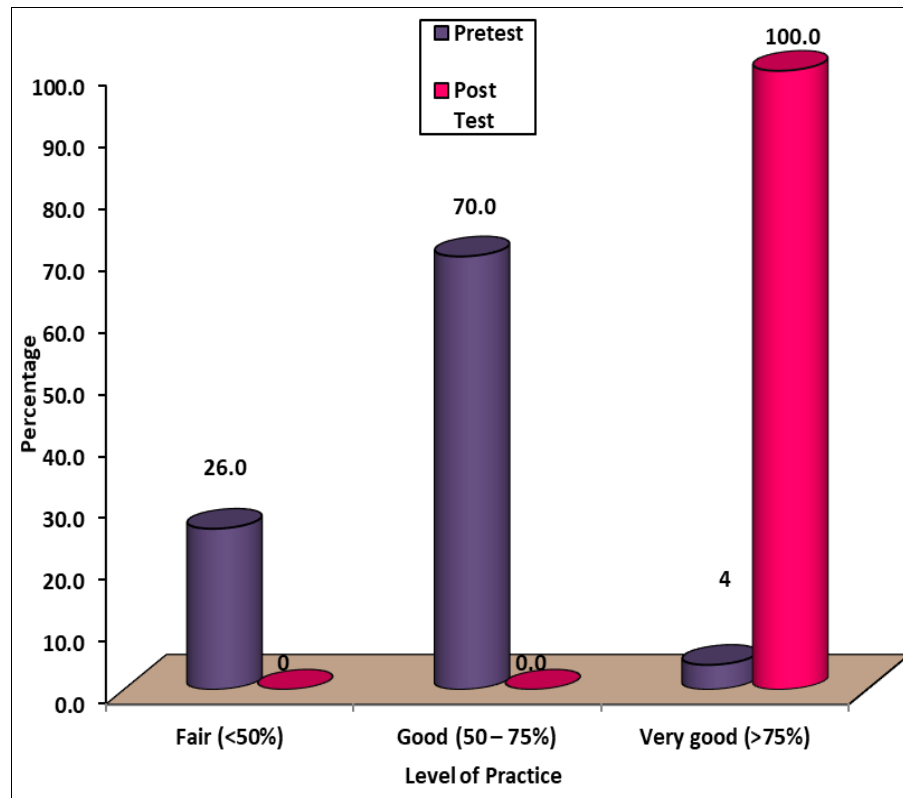


Fig 2: Percentage distribution of pretest and posttest practice on interpretive ability of B.Sc. nursing second year students

The second objective was to determine the effectiveness of Interpretive exercise session on interpretive ability on common blood investigation among B.Sc. nursing second year students

Table 1: Effectiveness of interpretive exercise session in improving the interpretive ability of B.Sc. nursing second year student N = 50

Knowledge	Median	Mean	S.D	Mean Difference	Paired “t” test	p-value
Pretest	18.0	17.60	3.85	16.44	32.310	0.0001*
Post Test	34.0	34.04	1.54			

* $p < 0.05$, S - Significant

The table 1 shows that the pretest mean score of knowledge was 17.60 ± 3.85 and the posttest mean score was 34.04 ± 1.54 . The median score was 18.0 and 34.0 respectively. The mean difference score was 16.44. The

calculated paired “t” test value of 32.310 was statistically significant at $p < 0.05$ level which clearly infers that after the intervention B.Sc. Nursing year students had gained more knowledge on interpretive ability.

Table 2: Effectiveness of interpretive exercise session in improving the practice on interpretive ability of B.Sc. nursing Second year student N = 50

Practice	Median	Mean	S.D	Mean Difference	Paired “t” test	p-value
Pretest	15.0	13.68	3.96	7.38	12.590	0.0001*
Post Test	21.0	21.06	0.77			

* $p < 0.05$, S - Significant

The table 2 shows that the pretest mean score of practice was 13.68 ± 3.96 and the post test mean score was 21.06 ± 0.77 . The median score was 15.0 and 21.0 respectively. The mean difference score was 7.38. The calculated paired “t” test value of 12.590 was statistically significant at $p < 0.05$ level which clearly infers that after the intervention B.Sc. Nursing Second year students had

improved their practice on interpretive ability.

The third objective was to associate the pre-test and post- test level of interpretative ability on common blood investigation of B.Sc. nursing second year students with their selected demographic variables

Table 3: Association of post test level of knowledge on interpretive ability on common blood investigation of B.Sc. nursing Second year students with selected demographic variables. N =50

Demographic Variables	Inadequate		Moderately Adequate		Chi-Square Test & p-value
	F	%	F	%	
Age in years					$\chi^2=0.397$ d.f=1 p=0.529 N.S
17	-	-	-	-	
18	0	0	14	28.0	
19	1	2.0	35	70.0	
Gender					$\chi^2=0.255$ d.f=1 p=0.614 N.S
Male	0	0	10	20.0	
Female	1	2.0	39	78.0	
Knowledge about common blood investigation					$\chi^2=0.322$ d.f=1 p=0.570 N.S
Yes	1	2.0	37	74.0	
No	0	0	12	24.0	
Experience in blood collection					$\chi^2=0.288$ d.f=1 p=0.592 N.S
Yes	1	2.0	38	76.0	
No	0	0	11	22.0	

$p>0.05$, N.S - Not Significant

The table 3 shows that there was no significant association between selected demographic variable demographic with

post test level of knowledge on interpretive ability of B.Sc. nursing Second year students at $p<0.05$ level.

Table 4: Association of post test level of practice on interpretive ability on common blood investigation of B.Sc. nursing Second year students with selected demographic variables. N =50

Demographic Variables	≤Mean (21.06)		>Mean (21.06)		Chi-Square Test & p-value
	F	%	F	%	
Age in years					$\chi^2=2.804$ d.f=1 p=0.094 N.S
17	-	-	-	-	
18	12	24.0	2	4.0	
19	22	44.0	14	28.0	
Gender					$\chi^2=0.368$ d.f=1 p=0.544 N.S
Male	6	12.0	4	8.0	
Female	28	56.0	12	24.0	
Knowledge about common blood investigation					$\chi^2=0.013$ d.f=1 p=0.910 N.S
Yes	26	52.0	12	24.0	
No	8	16.0	4	8.0	
Experience in blood collection					$\chi^2=0.123$ d.f=1 p=0.725 N.S
Yes	27	54.0	12	24.0	
No	7	14.0	4	8.0	

$p>0.05$, N.S - Not Significant

The table 4 shows that there was no significant association between selected demographic variable demographic with post test level of practice on interpretive ability of B.Sc nursing Second year students at $p<0.05$ level.

Conclusion

The present study was conducted to assess the effectiveness of interpretive exercise in improving the interpretive ability of common blood investigation among B.Sc. nursing second year students. The study findings showed that there was an increasing in level of interpretive ability among B.Sc. nursing second year students in common blood investigation

Conflict of Interest

Not available

Financial Support

Not available

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