ORIGINAL RESEARCH PAPER

Nursing

"A STUDY TO EVALUATE THE EFFECTIVENESS OF JIGSAW TEACHING METHOD VERSUS CONVENTIONAL TEACHING METHOD ON RETINOPATHY OF PREMATURITY IN TERMS OF KNOWLEDGE AND SATISFACTION AMONG NURSING STUDENTS AT SELECTED COLLEGES OF AMBALA, HARYANA."

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ABSTRACT

The present study was conducted to evaluate the effectiveness of Jigsaw teaching method Vs Conventional teaching method of Knowledge and satisfaction of nursing students regarding Retinopathy of Prematurity. In this Quasi Experimental study 93 sample of the B.Sc. nursing 3rd year students studying in M.M College of Nursing and M.M institute of Nursing Mullana, Ambala, Haryana was collected by Simple Random Sampling technique. The result of study showed that mean pre-test knowledge score of nursing students was 17.21+3.00 in JTM group and 16.80+3.50 in CTM group with median 17 and 16 respectively. The mean post-test-2 knowledge score was 22.92+4.75 in JTM group and 25.85+5.65 in CTM group with median 23 and 27respectively. The computed F value was found (F= 89.84, p=0.00) that is statistically significant . The mean difference pre-test VS post-test-1 was10.23, pre-test VS post-test 2 was 5.70 and post-test-1 VS post-test-2 was 4.52 in JTM group whereas in CTM group, the mean difference of pre-test vs. post-test-1 was13.61, pre-test VS post-test-2 was 9.04 and post-test-1 VS post-test-2 was 4.57, with p-value significant at 0.05 level of significance. The result of the study proved that there is necessity of giving education regarding Retinopathy of Prematurity in order to improve knowledge of nursing students. The study conclude that CTM is more effective as compare to JTM group to enhancing regarding Retinopathy of prematurity among nursing student in CTM group.

INTRODUCTION

Retinopathy of prematurity (ROP) is a disorder of the developing retina of low birth weight preterm infants that potentially leads to blindness in a small but significant percentage of those infants[1.] Approximately about 1.1 million preterm babies die every year, but with inexpensive treatment 75 percent could survive each year, some 15 million babies in the world, more than one in 10 births, are born too early, according to the just released report Born Too Soon: The worldwide Action Report on Preterm Birth. More than one million of those babies die shortly after birth; countless others suffer some type of lifelong physical, neurological, or educational disability, often at great cost to families and society[2. .]

A Study on the Iranian education system suggest that Iranian teachers have often used conventional methods of teaching. Promote the mere duplication of information, use only lectures, and often resist switching to new methods of teaching, and if at times, teachers have become more inclined to use these new methods, they have mostly failed to implement them or base them on scientific evidence properly. It is therefore necessary to further examine the modern methods of education and their correct application[3.]

MATERIAL & METHODS:

The study was conducted in Seminar Hall and B.Sc. (N) 3rd year classroom of M.M College of Nursing, Mullana, Ambala, and Haryana. Administrative approval was taken for conducting the study. Data was collected from nursing students studying in B.Sc. Nursing 3rd Year in M.M College of Nursing and M.M Institute of Nursing through Structured Knowledge Questionnaire and Satisfaction scale for assessing the effectiveness of Jigsaw teaching method versus Conventional teaching method on Retinopathy of Prematurity by Simple Random Sampling technique The sample size was 93. The data was entered in Microsoft excel sheet. Data was analyzed and interpreted by employing descriptive and inferential statistics. SPSS version 20.0 was used to analyze the data. Level of significance for the present study was taken as p value ≤0.05.

RESULTS & DATA ANALYSIS

Table 1 N=93 Mean, Mean Difference, Standard Deviation of Difference, Standard Error of Mean Difference and "t" Value of Mean Pre-Test of knowledge score of Nursing in JTM and CTM group

Group	Mean	MD	SEMD	"t" value	Df	p value
JTM (n=51)	17.21	0.406	0.675	0.601	91	0.549NS
CTM (n=42)	16.80					

Table value of t (91) =1.661
*Significant (p≤0.05)
NS NotSignificant (p≥0.05)

Table 1 shows in the Pre-test, mean knowledge scores of nursing students was found to be 17.21 in JTM group and in CTM group, it was found to be 16.80 with mean difference of 0.406 and standard error of mean difference was 0.675.

Table -2 N=93 Post HOC value showing significant mean difference in RH-ANOVA value of level of Knowledge before and after administration of teaching method.

Group	Category	MD	SE	p-value
JTM (n=51)	Pre-test VS post -test-1 Pre-test VS Post-test -2 Post-test-1 VS Post-test -2	10.235 5.706 4.529	0.514 0.714 0.771	0.00* 0.00* 0.00*
CTM (n=42)	Pre-test VS Post -test-1 Pre-test VS Post-test -2 Post-test -1 VS Post-test -2	13.61 9.04 4.571	0.669 0.935 0.910	0.00* 0.00* 0.00*

*Significant (p≤ 0.05)
NS= Not Significant (p≥0.05)

Data presented Table 2 shows the further elucidation of result, least significant difference in Pre-test knowledge score among nursing personnel in the JTM and CTM group.

Table 3N=93Item wise analysis of Frequency and Percentage distribution of nursing student in terms of level of Knowledge regarding ROP in JTM and CTM group

Itemswith corrected response	Frequency (%) Corrected Response					
	JTM(n=51)			CTM(n=42)		
	Pre-test	Post-test-1	Post-test-2	Pre-test	Post-test-1	Post-test-2
Q.1 A premature baby is born before37 weeks	31(60.8%)	19(37.3%)	31(60.8%)	34(81%)	39(92.9%)	37(88.1%)
Q.2All of the following are external parts of a human eye EXCEPT Retina	25(49%)	40(78.4%)	32(62.7%)	21(50%)	27(64.3%)	24(57.1)
Q.3Retinal blood vessels are developed after16 weeks of gestation.	8(15.7%)	43(84.3%)	37(72.5%)	14(33.3%)	37(88.1%)	29(69.0%)
Q.4 Retina is located near…Optic nerve	42(82.4%)	49(96.1%)	45(88.2%)	38(90.5%)	39(92.9%)	40(95.2%)
Q.5 The function of retina is- All of these	35(68.6%)	38(74.5%)	43(84.3%)	27(64.3%)	22(52.4%)	32(76.2%)
Q.6The blood supply to the retina is delivered through the capillaries from Central retinal artery	22(43.1%)	47(92.2%)	40(78.4%)	24(57.1%)	40(95.2%)	31(73.8%)
Q.7Retinopathy of prematurity (ROP) is an eye disorder caused by Abnormal growth of blood vessel	28(54%)	44(86.3)	41(80.4%)	17(40.5%)	40(95.2%)	37(88.1)
Q.8Retinopathy of prematurity is known as Retrolentalfibroplasias(RLF)	26(51.0%)	10(19.6%)	26(51.0%)	25(59.5)	38(90.5%)	37(88.1%)
Q.9 Following are the complications of ROP, EXCEPT Mydriasis	24(47.1%)	41(80.4%)	22(43.1%)	28(66.7%)	35(83.3%)	28(66.7%)
Q.10 In premature babies, high paO2 can cause Oxygen toxicity	35(68.6%)	48(82.4%)	44(86.3)	36(85.7%)	37(88.1%)	34(81.0%)
Q.11Retinal detachment can lead to Blindness	23(45.1%)	42(82.4%)	38(76.5%)	18(42.9%)	41(97.6%)	26(61.9%)
Q.12According to the Revised International classification of retinopathy of prematurity, the severity of disease is assessed b	31(60.8%)	39(76.5%)	39(76.5%)	24(57.1%)	32(76.2%)	24(57.1%)
Q.13 Which of the stage don't directly leads to blindness or other severe injury of eye? Stage 1 and 2	33(64.7%)	43(84.3%)	34(66.7%)	23(54.8%)	32(76.2%)	33(78.6%)
Q.14 In which stage, complete retinal detachment takes place? 5th stage	12(23.5%)	48(94.1%)	37(72.5%)	17(40.5%)	38(90.5%)	24(57.1%)
Q.15 In which classification, the blood vessels of retina get engorged and get twisted Plus disease	14(27.5%)	39(76.5%)	25(49.0%)	6(14.3%)	31(73.8%)	28(66.7%)
Q.16 Which stage of ROP is depicted in the picture following Stage	7(13.7%)	24(47.1%)	16(31.4%)	7(16.7%)	20(47.6%)	32(76.2%)
Q.17Which of the following statement is not TRUE?	10(19.6%)	45(88.2%)	31(60.8%)	9(21.4%)	31(73.8%)	21(50.0%)
Q.18 The stage 1 and stage 3 of ROP can be differentate by.	17(33.3%)	37(72.5%)	25(49.0%)	7(16.7%)	35(61.9%)	27(64.3%)
Q.19 All preterm babies below 34 Weeks birth weight should be screened for ROP if gestational age is not known:	16(31.4%)	32(62.7%)	17(33.3%)	9(21.4%)	26(61.9%)	17(40.5%)
Q.20 All preterm babies below birth weight should be screened for ROP if gestational age is not known: 1500 -2000 grams	19(37.3%)	41(80.4%)	26(51.0%)	9(21.4%)	22(52.4%)	19(45.2%)
Q.21 The ROP screening should be done by a trained Ophthalmologist	41(80.4%)	40((78.4%)	32(62.7%)	31(73.8%)	38(90.5%)	36(85.7%)
Q.22 First screening examination should be carried out3-4 weeksof postnatal age?	24(47.1%)	32(62.7%)	28(54.9%)	23(54.8%)	27(64.3%)	24(57.1%)
Q.23 Termination of screening can be done at what postnatal age. 40 weeks	12(23.5%)	14(27.5%)	7(13.7%)	8(19.0%)	28(66.7%)	19(45.2%)
Q.24 The frequency and number of subsequent ROP examinations depends on the following factors, EXCEPT	15(29.4%)	13(25.5%)	14(27.5%)	16(38.1%)	25(59.5%)	14(33.3%)
Q.25 Prior to ROP screening pupil is dilated with Tropicamide	8(15.7%)	38(74.5%)	29(56.9%)	9(21.4%)	39(92.9%)	32(76.2%)

Maximum score =25
Maximum score =0

Table 3 depicted the item analysis of structured knowledge questionnaire in the JTM and CTM group regarding Retinopathy of Prematurity among the nursing students. It shows the frequency and percentage of item wise of pre-test, post-test-1 and post-test-2 in JTM and CTM group.

Conflict of Interest
There is no conflict of interest.

Funding

Ethical Consideration
Formal administrative approval was obtained from the Institutional Ethical Committee of MMIMS&R, Hospital, Mullana, Ambala to conduct the study.

DISCUSSION
The present study shows maximum numbers of nursing students in JTM group (76.5%) and in CTM group (66.7%) were females. These findings were consistent with the study conducted by **Soliman Abd el Aliem, et. al,** which showed

that the mean age of the jigsaw and lecture groups were 20.8 ± 0.54 and 20.8 ± 6.53 were female respectively with no statistical significance between both groups regarding Socio demographic characteristics as p-value was P>0.05[6.] In present study the mean knowledge score and standard deviation in the pretest was 17.21±3.00 in JTM group and in CTM group the mean was, 16.80±3.29 knowledge score and standard deviation among nursing students.These findings were inconsistent with the study conducted by **Eachempatiet P et. al**. Which was study showed in JTM group the mean knowledge score and standard deviation in the pretest was 9.75±1.19 and in TTM group, in JTM group 9.78±1.03the mean knowledge score and standard deviation among nursing personnel was found.

In the present study after intervention there was a statistically significant difference between JTM and CTM groups as p-value≤0.05. These findings were consistent with another study conducted by **Rehab Soliman Abd El** et al. to notifies that there was no statistical significance between jigsaw and lecture groups before intervention as p-value was P>0.05 while immediately after intervention there was a statistically significant difference between both groups as p-value≤0.05. Moreover, in follow up (4 weeks after intervention) there was a highly statistically significant difference between both groups with p-value≤0.001[9].

CONCLUSION
The conclusions drawn from the findings of the study is that CTM is more effective as compare to JTM group to enhancing regarding Retinopathy of prematurity among nursing student in CTM group. And both groups were found to be highly satisfied with both teaching methods.

Acknowledge

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