

A study to evaluate the effectiveness of video assisted teaching module on knowledge regarding care of neonate on phototherapy among student nurses of selected college of nursing, Bathinda, Punjab

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Abstract:

Background: Jaundice is an important problem in the 1st week of life. High bilirubin level may be toxic to the developing central nervous system and may cause neurological impairment even in term newborn. Phototherapy is a non-invasive method to bring down the bilirubin level by exposing the skin of the baby to blue or cool white light. **Objectives:** To evaluate the effectiveness of video assisted teaching module on knowledge regarding care of neonate on photo therapy among student nurses of selected college of nursing, Bathinda, Punjab. **Material and methods:** Quasi experimental Non randomized control group design was employed for this study. Non Probability Convenience sampling technique was used to select 60 student nurses (30 in experimental group and 30 in control group) at college of nursing, Adesh University, Bathinda. Structured Knowledge questionnaire was used to collect the relevant data. The questionnaire was formulated after discussions with the experts in the related field and on the basis of review of literature. **Results:** The findings of the study revealed that in experimental group, the pre-test mean and SD was 17.20±2.952 while in posttest 22.46±2.23df=58 p-value 0.161 with t-value 3.267. In control group the mean and SD in pretest 18.37±3.39 but in post-test 19.90±3.42df=58 p=0.001 and t value 1.419. **Conclusion:** There is an improvement in the Knowledge score among student nurses after video assisted teaching.

Keywords: Effectiveness, Video assisted Teaching, Knowledge, Phototherapy.

I. INTRODUCTION

Neonatal hyperbilirubinemia is a common problem in newborn and manifest clinically as jaundice. Physiological jaundice of the term newborn usually appears after 30 hrs. Peak level of serum bilirubin (a maximum of 12mg/dl) is reached on the 4th or 5th day and icterus disappears by 7 to 14 days. In premature babies maximum bilirubin level reaches 12 to 15mg/dl on 5th to 7th day and icterus disappears by 14 days to a month.¹ The main form of therapy for neonates with hyperbilirubinemia is phototherapy. It is believed that this light in the blue range acts to decompose bilirubin by the process of oxidation, phototherapy is effective in preventing or reducing an increase in bilirubin levels. Phototherapy is a non-invasive method to bring down the bilirubin level by exposing the skin of the baby to blue or cool white light. Light converts the bilirubin to non-toxic water soluble compounds which is excreted in urine & stool. Baby is undressed completely but diaper is kept onto protect the gonads. Eyes are covered to prevent damage to the retina. Nude baby is kept under the light source at a distance of 45cm.² Phototherapy involves exposure of the naked baby to blue, cool white or green light of wave length 450-460 nm.³ The baby is turned every 2 hours or after each feed for maximum exposure. When the large surface area is exposed to the light phototherapy produces its greatest effect, so the infant must be unclothed during the treatment. In order to prevent chilling, an external means of maintaining normal body temperature must be used. The vital signs are taken at least 4 hours to monitor the infant temperature. Phototherapy is stopped when severe bilirubin returns to a safe value as per unit protocol. Proper nursing care should be given to enhance its effectiveness & to minimize the adverse effects & its complications.² In United States 4.3% of 47,801 infants had total serum bilirubin levels in a range in which phototherapy was recommended by the American Academy of Pediatrics guideline.⁴ Researcher felt that there is a need to provide knowledge regarding care of newborn on phototherapy among student nurses and decided to administer a VATM among student nurses regarding care of newborn on phototherapy.

STATEMENT OF THE PROBLEM

A study to evaluate the effectiveness of video assisted teaching module on knowledge regarding care of neonate on phototherapy among student nurses of College of Nursing, Adesh University, Bathinda, Punjab.

OBJECTIVES

To assess the pre-test level of knowledge regarding care of neonate on phototherapy among student nurses in experimental and control group.

To evaluate the effectiveness of video assisted teaching module on knowledge regarding care of neonate on photo therapy by comparing pre-test and post-test knowledge scores between experimental and control group.

To find out the association between post test knowledge score with their selected demographic variables in experimental group.

HYPOTHESIS:

H_{0.1}: There will be no significant difference between pre test and post test knowledge score regarding care of neonate on phototherapy among student nurses.

H_{1.1}: There will be a significant difference between pre test and post test knowledge score regarding care of neonate on phototherapy among student nurses.

H_{0.2}: There will be no significant association between the post test knowledge score and selected demographic variables regarding care of neonate on phototherapy among student nurses in experimental group.

H_{1.2}: There will be a significant association between post test knowledge score and selected demographic variables regarding care of neonate on phototherapy among student nurses in experimental group.

II. MATERIALS AND METHODS

Research Approach: In the present study, the research approach was evaluative research approach.

Research Design: quasi experimental research design (Non randomized control group design) was employed for this study.

Setting: The setting for research study was at College of Nursing, Adesh University, Bathinda.

Population: A total of 60 student nurses who were in the College of Nursing, Adesh University, Bathinda were the population for research study.

Sample and Sampling Technique: 60 student nurses were selected by using Non Probability Convenience Sampling technique.

Description of the data collection Tool

In this study, the data collection tool was divided into two parts:

Part 1: Socio-demographic variables consisted of personal details such as age, sex, types of family, area of residence, religion and course of the study.

Part 2: Structured Knowledge Questionnaires consists of 33 knowledge questions.

Scoring:

The knowledge regarding care of neonate on phototherapy was measured in terms of knowledge scores. Each correct answer was given a score of one and wrong answer zero. To interpret level of knowledge the scores were distributed as follows,

Scoring key for knowledge questionnaire.

Maximum Score= 33

Minimum score= 0

Knowledge Score

Level of knowledge	Score	Percentage
Adequate	23-33	68-100
Moderately adequate	12- 22	34- 67
Inadequate	0-11	0- 33

III.RESULTS AND DISCUSSIONS

The data findings have been organized and finalized according to plan for data analysis and results are presented as under the following.

Section I: Frequency and percentage distribution of socio demographic variables of student nurses in experimental and control group.

Section II: Frequency and percentage distribution of pre-test level of knowledge regarding care of neonate on phototherapy among student nurses in experimental and control group.

Section III: Findings related to evaluate the effectiveness of video assisted teaching module on knowledge regarding care of neonate on photo therapy by comparing pre-test and post-test knowledge score between experimental and control group.

Section- IV Findings related to showing association between post test knowledge score with their selected demographic variables in experimental group.

Section I: Frequency and percentage distribution of socio demographic variables of student nurses in experimental and control group.

Table No: 1 Frequency and percentage distribution of socio demographic variables of student nurses in experimental and control group.

N=60

SECTION-1 SOCIO-DEMOGRAPHIC VARIABLES		Experimental group (n-30)		Control group (n-30)	
		f	%	f	%
		Age (in years)	18-22	26	86.67
	23-27	4	13.33	1	3.33
Sex	Male	10	33.33	0	0.00
	Female	20	66.67	30	100.00
Religion	Sikh	28	93.33	27	90.00
	Hindu	2	6.67	1	3.33
	Christian	0	0.00	2	6.67
Area of Residence	Rural	21	70.00	17	56.67
	Urban	9	30.00	13	43.33
Type of Family	Joint	11	36.67	13	43.33
	Nuclear	18	60.00	17	56.67
	Extended	1	3.33	0	0.00
Course	B.sc(N) III rd yr	3	10.00	30	100.00
	G.N.M II nd yr	27	90.00	0	0.00

Section II: Frequency and percentage distribution of pre-test level of knowledge regarding care of neonate on phototherapy among student nurses in experimental and control group.

Table: 2 Frequency and percentage distribution of pre-test level of knowledge regarding care of neonate on phototherapy among student nurses in experimental group.

N=30

Level of knowledge (Experimental Group)	Score	f	Percentage (%)
Adequate	23-33	1	3.33
Moderately adequate	12-22	27	90.00
Inadequate	0-11	2	6.67

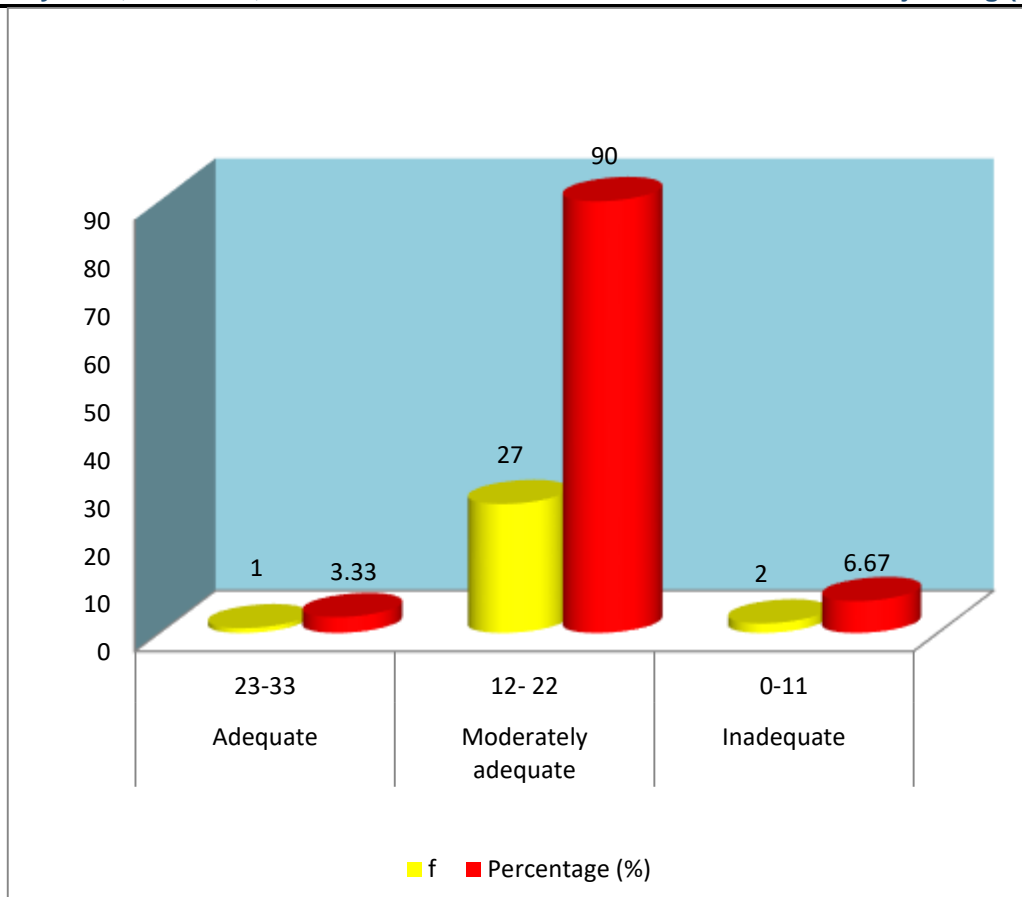


Figure: 1 Frequency and percentage distribution of pre-test level of knowledge regarding care of neonate on phototherapy among student nurses in experimental group.

Table: 3 Frequency and percentage distribution of pre-test level of knowledge regarding care of neonate on phototherapy among student nurses in control group.

N=30

Level of knowledge (control group)	Score	f	Percentage (%)
Adequate	23-33	3	10.00
Moderately adequate	12-22	27	90.00
Inadequate	0-11	0	00.00

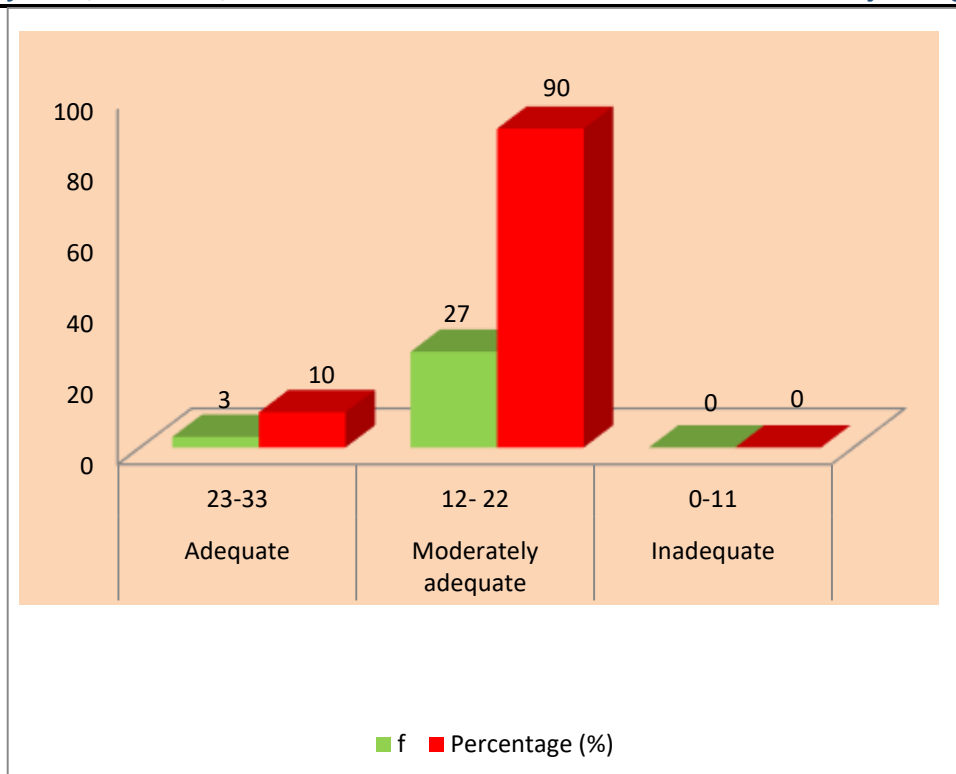


Figure: 2 Frequency and percentage distribution of pre-test level of knowledge regarding care of neonate on phototherapy among student nurses in control group.

Section III: Findings related to evaluate the effectiveness of video assisted teaching module on knowledge regarding care of neonate on photo therapy by comparing pre-test and post-test knowledge score between experimental and control group.

Table: 4 Mean and standard deviation of pre-test and post-test knowledge score of experimental and control group.

Paired 't' test		Mean ± S.D	p-value	t value
Experimental Group	Pre-test	17.20±2.952	0.161 ^S	3.267
	Post-test	22.46±2.23		
Control group	Pre-test	18.37±3.39	0.001 ^{NS}	1.419
	Post-test	19.90±3.42		

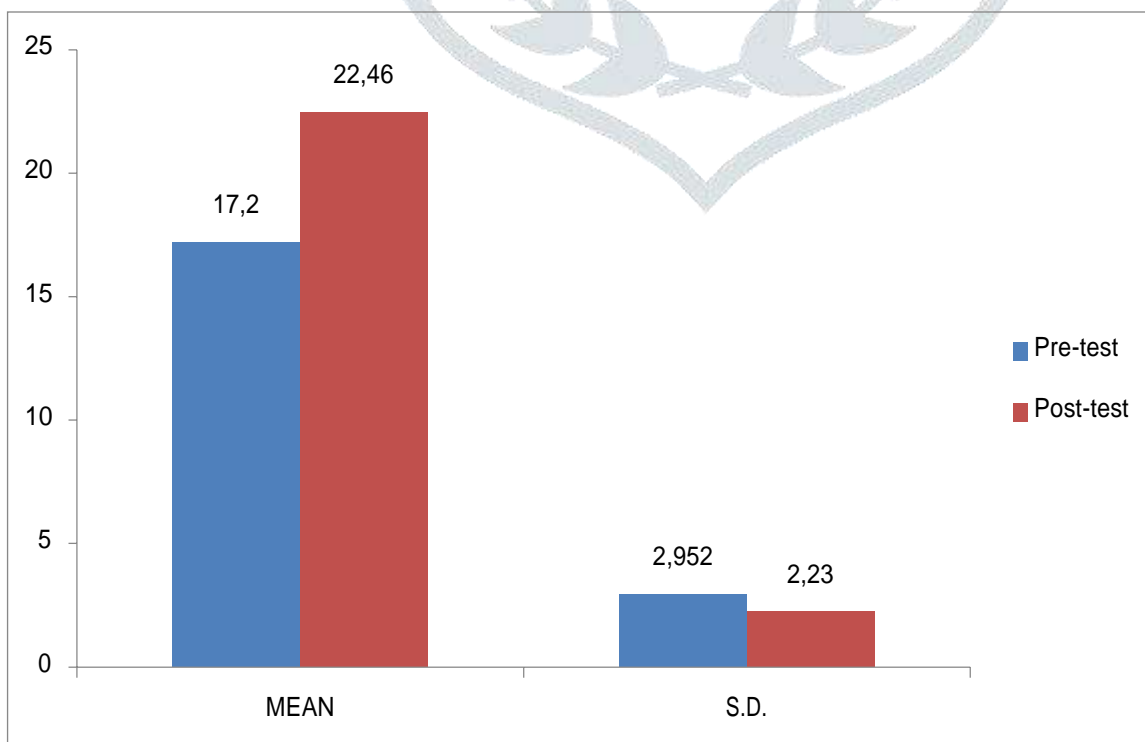


Figure: 3 Mean and standard deviation of pre-test and post-test knowledge score of experimental group.

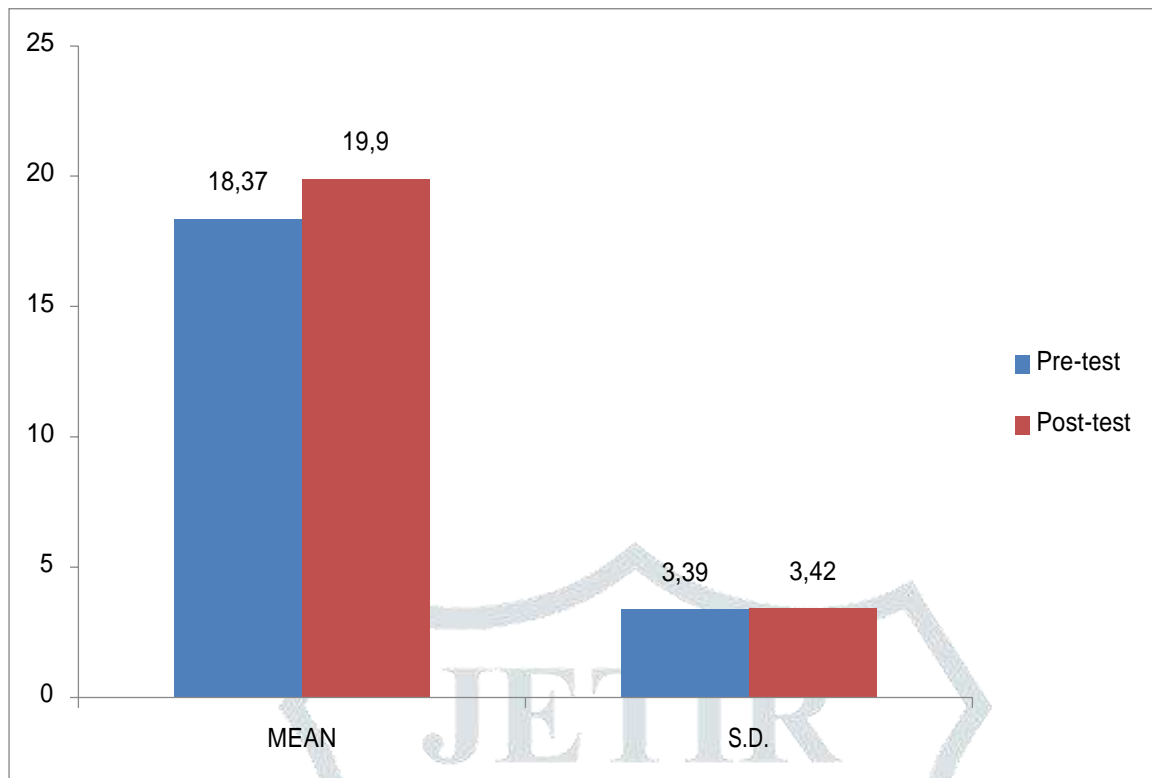


Figure: 3 Mean and standard deviation of pre-test and post-test knowledge score of control group.

Section- IV Findings related to showing association between post test knowledge score with their selected demographic variables in experimental group.

Table: 5 Association between post test knowledge score with their selected demographic variables in experimental group.

Socio Demographic Variables		Inadequate	Moderate adequate	Adequate	Chi square	Df	p value
Age	18-22	0	15	11	0.0835	1	0.7725 ^{NS}
	23-27	0	2	2			
Sex	Male	8	1	1	18.5368	2	0.0000 ^S
	Female	2	18	0			
Religion	Sikh	2	25	1	0.2381	2	0.8877 ^{NS}
	Hindu	0	2	0			
Residence	Rural	1	19	1	0.8113	2	0.6665 ^{NS}
	Urban	1	8	0			
Type of family	Joint	0	10	1	3.0752	4	0.5453 ^{NS}
	Nuclear	2	16	0			
	Extended	0	1	0			
Course	B.Sc	2	24	1	0.3704	2	0.8309 ^{NS}
	GNM	0	3	0			

Table No: 4 The study findings revealed that there was significant association found between knowledge of student nurses with Sex of student nurses while there was no significant association between knowledge and other socio demographic variables such as age, religion, residence, type of family and course of study.

IV. Conclusion: The following conclusions are drawn on the basis of findings of the study.

There was an increase in the knowledge of student nurses after video assisted teaching.

There was significant association found between knowledge of student nurses with Sex of student nurses while there was no significant association between knowledge and other socio demographic variables such as age, religion, residence, type of family and course of study.

Nursing Implications:

Nursing Practice: Educational programs with effective teaching strategies make it easy for the student nurses to understand the concepts in better way.

Nursing Education: The nursing curriculum consists of knowledge related to health information and appropriate strategy to imparting the knowledge.

Nursing Administration: Nurse Administrators are the key persons to plan, organize and conduct the educational programs. Nurse administrator's supports are needed to conduct and evaluate health educational programs on phototherapy.

Nursing Research: The researcher should be able to conduct the research on each and every aspects of phototherapy including educational, psychological and social in order to generate in-depth and relevant scientific data.

Recommendations:-

This study can be replicated with large samples.

A follow up study of video assisted teaching module can be conducted to find out the effectiveness in terms of retention of knowledge.

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