

## Effectiveness of Video Assisted Teaching Programme on Knowledge Regarding Phototherapy for Neonatal Jaundice among Third Year B.Sc. Nursing Students

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### Abstract

*Background:* Phototherapy consists of exposing infants to blue light, which is close to ultraviolet light on the light spectrum. Infants with jaundice caused by high levels of bilirubin, a byproduct of the breakdown of old red blood cells are exposed to the light, which changes the shape of the molecule, allowing the body to excrete it properly. The aim this study to assess the knowledge of Third Year B. B. Sc, Nursing Students with neonatal jaundice on effects of phototherapy. *Material Method:* A quasi experimental study used to conducted a total number of students were selected 30 B.B.Sc Nursing Student in MINS College of Nursing, latur, in July 2016. With their demographic variable, data was collected by using structure questionnaire before and after video teaching programme the data was interested using descriptive and inferential statistics. *Result:* The result of the study revealed that video teaching effective as the knowledge score shows improvement from 'Inadequate' (76.6%) to 'adequate' 2(6.6%) from pretest to posttest respectively. There was a significant difference found between pretest and posttest knowledge, at  $p < 0.05$  level. A significant association found between knowledge and demographic variables like age, sex, previous experience and experience 't' test (2.02) at  $p < 0.05$  level. *Conclusion:* Majority of students demographic variables are highly significance after the video teaching programme the hypothesis is accepted.

**Keyword:** Phototherapy; Video Teaching; Newborn and Nursing Students.

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### Reprint Request

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Received on | March 18 | 2017

Accepted on | April 07 | 2017

### Introduction

New born are considered to be tiny and powerless and more of all treasure to the nation, completely dependent on others or parents for their adaptation in the external environment within one minute of birth the normal newborn adapts from dependant fetal existence to an independent one capable of oxygenation and carry on physiological processes. Understanding and appreciating this transition are vital to the assessment and care of newborn babies.

Jaundice is considered pathologic if it presents within the first 24 hours after birth, the total serum bilirubin level rises by more than 5 mg per dL (86 mol per Liter) per day or is higher than 17 mg per dL (290

mol per L), or an infant has signs and symptoms suggestive of serious illness. The management goals are to exclude pathologic causes of hyperbilirubinemia and initiate treatment to prevent bilirubin neurotoxicity.

Phototherapy should be instituted when the total serum bilirubin level is at or above 15 mg per dL in newborn 25 to 48 hours old, 18 mg per dL in infants 49 to 72 hours old, and 20 mg per dL in infants older than 72 hours. Few term newborns with hyperbilirubinemia have serious underlying pathology.

Phototherapy is the use of visible light for the treatment of Hyperbilirubinemia (Neonatal Jaundice) in the newborn. The mother as a caretaker can enhance the effectiveness and effects of phototherapy

for the neonatal suffering with Hyperbilirubinemia (Neonatal Jaundice).

#### *Need for the Study*

The world IMR (Infant Mortality Rate) on an average is 41.81 per 1000 live and the world incidence rate for neonatal jaundice is 1-10 of about 1, 33,000 Among that our country has the highest IMR estimation to about 43.19 per 1000 live birth in India and Indian Incidence rate for neonatal jaundice is 1-10 for about 1,12000. In Maharashtra IMR (Infant Mortality Rate) on an average is 28 per 1000 live (national health mission 2015)

#### *Statement of the Problem*

“A study to assess the effectiveness of video assisted teaching programme on knowledge regarding phototherapy for neonatal jaundice among third year B.Sc. Nursing students at M.I.N.S., College of Nursing, and Latur.”

#### *Objective of the Study*

1. To assess the knowledge of Third Year B. B. Sc, Nursing Students with neonatal jaundice on effects of phototherapy through pre-test.
2. To evaluate the effectiveness of video assisted teaching programme on effects of phototherapy.
3. To find out the association between pre-test & post-test knowledge score with selected demographic variables with neonatal jaundice.

#### *Hypothesis*

**H<sub>1</sub>:** There will be significant difference between pre-test and post-test knowledge scores of students with neonatal jaundice after video assisted teaching programme.

**H<sub>2</sub>:** There will be significant association between pre-test knowledge scores with selected demographic variables of students with phototherapy.

## **Materials and Methods**

A quasi experimental study, pretestposttest design without control group approach was undertaken in the MINS College of Nursing, Latur Maharashtra. A total of 30 III year Students were selected with help of probability method, systematic random sampling technique. The study was approved by institutional ethics and research committee of MIMSR and written permission from Principal and informed consent was obtained from the III year Students before enrollment. The pre tested structured interview schedule was used to collect data, it consists of 30 items and correct response carries 1 and wrong response carries 0 score respectively. The maximum score was 30 and based on score the knowledge was categorized as Adequate, Moderately adequate and Inadequate. A pre tested structured interview schedule was used for conducting the pretest, followed by the Video Teaching Effectiveness of video teaching was done by conducting posttest. The collected data were compiled, tabulated and analyzed based on objectives with help of descriptive (mean, SD and mean %) and inferential (t test, chi square test and coefficient of co relation test) statistical methods wherever required.

## **Result**

The study revealed that level of knowledge is (7) 23.33 % having moderate knowledge in pretest. 23 Students (76.66%) having inadequate knowledge in pretest. The posttest knowledge score adequate 9 (30%) of them, Moderately adequate 19 students (63.33% ). Inadequate knowledge 2 (6.66 %) of them. This indicate the study was effective & it enhance Knowledge of phototherapy among undergraduate students. The improvements was statistically tested by paired 't' test value and result found to be significant at  $p > 2.02$  value. There was a statistically no significant association found between the post test scores of the sample with their hypothesis 2 is accepted.

**Table 1:** Comparison of pre-test and post-test level of knowledge on phototherapy among third year B.Sc. nursing students

Sr. No	Level of knowledge	Pretest scores		Post test scores	
		Number	Percentage	Number	Percentage
1	Adequate (>76%)	-	-	9	30
2	Moderate (51-75%)	7	23.33	19	63.33
3	Inadequate (<50%)	23	76.66	2	6.66

Table 1 shows that during pre-test 60% of third year B.Sc. nursing students had moderately adequate knowledge and 40% of third year B.Sc. nursing students had inadequate knowledge whereas, during post-test 90% of third year B.Sc. nursing students had adequate knowledge.

**Table 2:** Area wise comparison of mean, SD, and mean percentage of pretest knowledge scores about phototherapy among third year B.Sc. nursing students N:30

S. No	Area	Max obtainable score	Pretest score		
			Mean	SD	Mean (%)
1	Knowledge on definition, indication, contraindications of phototherapy	5	2.86	0.81	57.35
2	Knowledge on action, guidelines. articles and procedure of phototherapy	9	3.23	0.93	35.92
3	Knowledge on complications and nursing management of phototherapy	16	7.06	2.63	44.16
	Overall	30	4.38	1.45	45.81

**Table 3:** Area wise comparison of mean, SD, and mean percentage of posttest knowledge scores about phototherapy among third year B.Sc. nursing students N: 30

S. No	Area	Max obtainable score	Post test score		
			Mean	SD	Mean (%)
1	Knowledge on definition, indication, contraindications of phototherapy	5	4.36	0.76	87.33
2	Knowledge on action, guidelines. articles and procedure of phototherapy	9	6	1.87	66.66
3	Knowledge on complications and nursing management of phototherapy	16	10.2	1.68	63.75
	Overall	30	6.85	1.43	72.58

**Table 4:** Comparison between difference of pre-test and post- test knowledge scores regarding phototherapy among third year B.Sc. nursing students N:30

Sr. No	Area	't' value	Level ofSignificance
1	Knowledge on definition, indication, contraindications of phototherapy	7.82	HS
2	Knowledge on action, guidelines. articles and procedure of phototherapy	13.50	HS
3	Knowledge on complications and nursing management of phototherapy	6.39	HS
	Overall	9.01	HS

(Degree of freedom (df)=29 table value=2.02 highly significant(HS))

**Table 5:** Association between posttest score on phototherapy among third year B.Sc. nursing students with demographic variables

Sr. No	DemographicVariables	DF	Table value	χ <sup>2</sup> value	Level of significant
1	Age	4	7.82	6.66	HS
2	Sex	2	3.8	46.94	HS
3	Previous Experience	2	3.8	12.55	HS
4	Work Experience	2	3.8	0.35	HS

Table 4 shows that there is highly significant difference between the area wise score of pretest and posttest. Hence, the stated null hypothesis is rejected and statistical hypothesis is accepted. Thus the difference observed in the mean score value of pretest and posttest were true difference.

Prior to the implementation of the video assisted teaching the third year B.Sc nursing students had the mean percentage 45.81% of the total mean score, which was poor knowledge, whereas after the implementation of video assisted teaching, the third year B.sc nursing students had the mean percentage 6.85±1.43 (SD) which is 72.58 % of the total mean score which is good knowledge depicting the difference of 26.77 % increase in mean percentage of score.

### Implications

#### Nursing Service

The content of the video assisted teaching regarding knowledge on phototherapy will help the nursing professionals in the hospital as well as in the community to reinforce their knowledge on phototherapy. The video assisted teaching provides knowledge on phototherapy with which she/he can categorize the types, severity and the management.

#### Nursing Education

The study emphasizes the need of educating the

nursing personnel through in-service or continuing programme to update their knowledge and still in educating the third year B.Sc. nursing students regarding phototherapy and its current medical practices.

Student nurses must develop their skills by using these materials to identifying nosocomial; infection through meaning, sources, and transmission.

#### *Nursing Administration*

Provision should be made for money in budget in order to identify the prevalence of phototherapy among third year B.sc nursing students and to conduct health awareness programmes.

#### *Recommendations*

- Same study can be conducted with large size and for long duration.
- Same study can be done as an experimental study.
- An exploratory study can be conducted to identify the causes of phototherapy and its prevention.
- Same study can be conducted as a comparative study among the other medical colleges.
- Same study can be conducted among college students.

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