A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO TEACHING PROGRAMME ON KNOWLEDGE ON NEONATAL RESUSCITATION AMONG III YEAR B.SC. NURSING STUDENTS AT SCPM COLLEGE OF NURSING IN GONDA DISTRICT

Prof. Leelavathy M.sc (N), K Vara Prasathbabu M.sc (N), Department of Nursing
SCPM college of Nursing and Paramedical Sciences, Gonda Uttar Pradesh -2711001
Corresponding Author:
Prof. Leelavathy M.sc (N), HOD Paediatric Department
SCPM college of Nursing and Paramedical Sciences, Gonda Uttar Pradesh -2711001

ABSTRACT

Keywords: Neonatal Resuscitation, video teaching programme

INTRODUCTION

Worldwide each year, 5 million neonates die. Birth asphyxia is responsible for 20% of these deaths. Of the 26 million infants born in India per annum, 4-6% fail to experience spontaneous breathing at birth and suffer from asphyxia. Timely and appropriate management of asphyxiated babies at birth can save them and provide a better quality of life amongst survivors, without any neurological sequelae.

NEED FOR THE STUDY

More than 5 million neonatal deaths occur worldwide each year. WHO estimates that during the year 1995, globally there were 36 neonatal deaths per 1000 live births, most of them are found in the developing countries. In India, it was about 47 per 1000 live births (1999).
Approximately 5% to 10% of the newly born population require some degree of active resuscitation at birth (e.g., Stimulation to breathe), and approximately 1% to 10% born in the hospital are reported to require assisted ventilation. It has been estimated that birth asphyxia accounts for19% of these deaths, suggesting that the outcome might be improved for more than 1 million infants per year through implementation of simple resuscitative techniques.

OBJECTIVES

- To assess the existing knowledge on neonatal resuscitation among III year B.Sc. Nursing students.
- To assess the effectiveness of video teaching programme on neonatal resuscitation among III year B.Sc. Nursing students.
- To associate the knowledge with demographic variables such as age, domicile and exposed to neonatal resuscitation in clinical setting.

HYPOTHESES

There will be a significant difference between the pretest and posttest knowledge on neonatal resuscitation among III year B.Sc. Nursing students.

OPERATIONAL DEFINITIONS

Effectiveness:

Refers to the extent to which the structured teaching programme has achieved the desired effect and measured in terms of significant gain in the post test knowledge scores of students.

Knowledge

Refers to the information that B.SC Nursing III Year students are having regarding neonatal resuscitation

Newborn

Refers to the infant under the age group of 0-28 days.

Neonatal resuscitation

Resuscitation is a series of actions taken to establish normal breathing, heart rate, colour, tone and activity in an newborn with depressed vital signs (Low APGAR score)

Video Teaching Programme

It refers to teaching the nursing students on neonatal resuscitation by displaying a video CD prepared by the investigator slides, picture and live demonstration on shown with background commentary of the full procedure of neonatal resuscitation.

REVIEW OF LITERATURE

Ghai, Piyush and Pauk (2020)[2] stated that 25 million infants born in India, 3-5% experienced asphyxia at birth. Asphyxia is characterized by progressive hypoxia, hypercapnia, hypoperfusion and acidosis. It may lead to multiorgan system dysfunction including hypoxic ischemic encephalopathy (HIE) and long term neuromotor sequelae.

Green (2010)[3] stated that asphyxia of the neonate most often occurs during labor and delivery, but also may be seen whenever placental or umbilical perfusion is impaired, or during the newborn period when oxygen delivery to the cells is inadequate. Neonatal asphyxia results in circulatory respiratory, and biochemical changes. Currently most clinicians use the more specific and descriptive terms to describe the infant's manifestations of asphyxia

RESEARCH DESIGN & METHOD

One group pretest and posttest design was adopted for the study. The General system theory was used for conceptual framework.

Seventy-five samples were selected and self-administered questionnaire schedule was used to assess their knowledge regarding neonatal resuscitation. Video teaching programme on neonatal resuscitation was given to the students.

After that post test was conducted and the outcome in terms of knowledge towards neonatal resuscitation was evaluated using descriptive inferential statistics.

DESCRIPTION OF THE TOOL

The instrument used for data collection was a structured interview questionnaire which consists of two sections.

Section –I (Demographic Data)

It includes sample number, age, domicile, exposed to neonatal resuscitation in the clinical and institutional setting.

Section –II (Structured questionnaire)

It consists of 62 questions including definition, principles, risk factors, nursing role in preparing the resuscitation equipment, immediate evaluation, steps of resuscitation, nurse's role during resuscitation, nurse's role after resuscitation and prognosis

SCORE INTERPRETATION

The scores interpretation is as follows.

Knowledge- It consists of 62 knowledge related questions with the total of 62

Each "right answer" scores one mark

Each "wrong answer" scores 0 mark.

	Percentage	Range of score
Adequate	76-100%	48-62
Moderately adequate	51-75%	32-47
Inadequate	<51%	0-31

RESULT:

The study revealed that the mean knowledge on neonatal resuscitation before the video teaching programme was inadequate (100%) and after the video teaching programme the mean knowledge score became adequate knowledge (96%). There was a significant difference in the level of knowledge of III year B.Sc. Nursing students between the pre-test and the post-test.

ANALYSIS AND INTERPRETATION OF THE DEMOGRAPHIC VARIABLES OFTHE SAMPLES.
TABLE -1

FREQUENCY AND PERCENTAGE DISTRIBUTION OF DEMOGRAPHIC VARIABLES OF THE STUDENTS

N=75

S.No.	Demographic variables	No	Percentage
1.	Age of the student a) 18-20 b) 21-22	 70 5	 93% 7%
2.	Domicile a) Rural b) Urban	 17 58	 23% 77%
3.	Exposure to any previous clinical knowledge setting a) Yes b) No	 14 61	 19% 81%

Table- 1 shows that out of 75 students, 70(93%) students were in the age group of 18-20 years and 5 (7%) students were in the age group of 21-22 years.

Out of 75 students, 58(77%) students from urban area and 17(23%) students from rural area.

Out of 75 students 61(81%) students were exposed to clinical setting and 14(19%) students were not exposed to clinical setting.

TABLE 2

FREQUENCY AND PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE OF STUDENTS ON NEONATAL RESUSCITATION IN PRE-TEST

N=75

S.No.	Level of knowledge on neonatal resuscitation	Pretest	
		No	%
1.	Inadequate (0-50%)	75	100
2.	Moderate (51-75%)	-	-
3.	Adequate ($\geq$ 76%)	-	-
	Total	75	100

Table.2 shows the adequacy of knowledge of students regarding neonatal resuscitation. In pre-test 75 (100%) students were found to have inadequate knowledge.

TABLE -3

FREQUENCY AND PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE OF STUDENTS ON NEONATAL RESUSCITATION IN POST-TEST

N=75

S.No.	Level of knowledge on neonatal resuscitation	Post test	
		No	**%**
1.	Inadequate (0-50%)	-	-
2.	Moderate (51-75%)	3	4
3.	Adequate ($\geq$ 76%)	72	96
	Total	75	100

Table 3, shows the adequacy of knowledge of students regarding neonatal resuscitation in post-test and 72(96%) student had acquired adequate knowledge and 3(4%) student had moderate knowledge.

TABLE -4

FREQUENCY AND PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE OF STUDENTS ON NEONATAL RESUSCITATION IN POST-TEST

N=75

S.No.	Level of knowledge on neonatal resuscitation	Post test	
		No	**%**
1.	Inadequate (0-50%)	-	-
2.	Moderate (51-75%)	3	4
3.	Adequate ($\geq$ 76%)	72	96
	Total	75	100

Table 4, shows the adequacy of knowledge of students regarding neonatal resuscitation in post-test and 72(96%) student had acquired adequate knowledge and 3(4%) student had moderate knowledge.
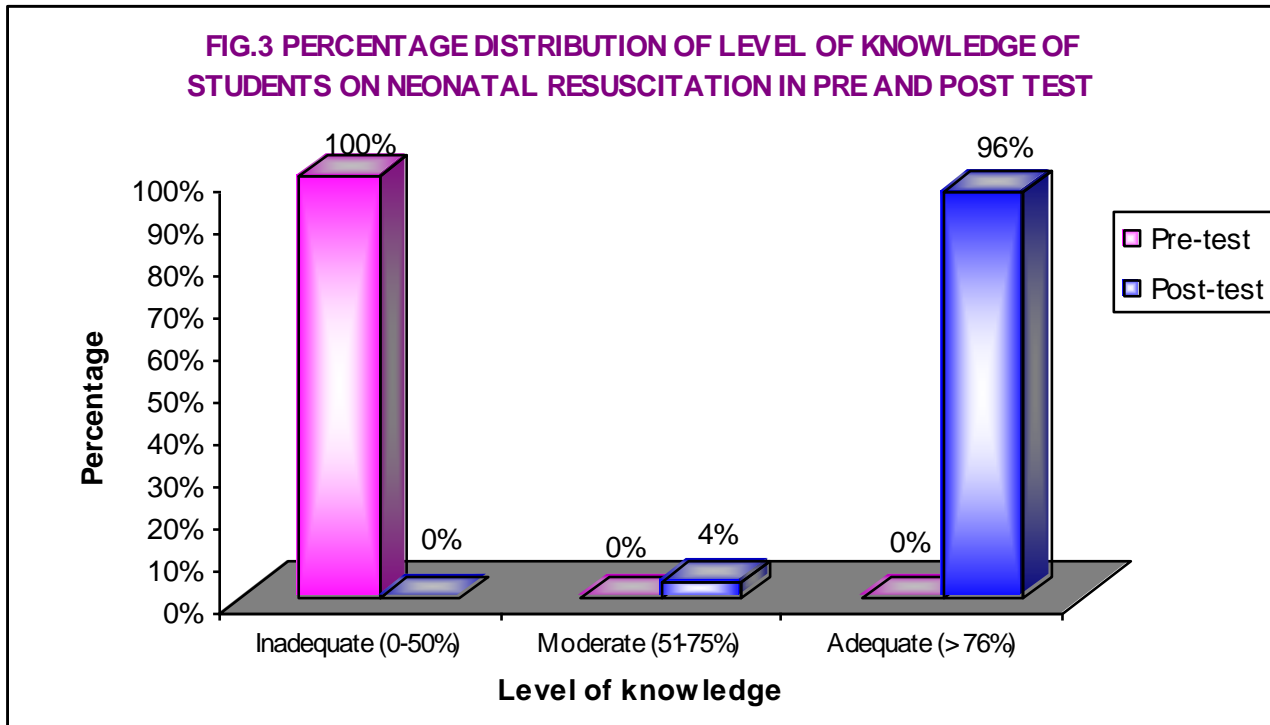
FIG.3 PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE OF STUDENTS ON NEONATAL RESUSCITATION IN PRE AND POST TEST

TABLE- 5

FREQUENCY AND PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE OF STUDENTS ON DEFINITION, RISK FACTORS, PRINCIPLES OF NEONATAL RESUSCITATION AND IMMEDIATE EVALUATION OF NEWBORN IN PRETEST

N=75

S.No.	Level of knowledge on definitions, risk factors, principles and immediate evaluation	Pretest	
		No	%
1.	Inadequate (0-50%)	45	60
2.	Moderate (51-75%)	30	40
3.	Adequate (≥ 76%)	-	-
	Total	75	100

Table-5 shows the adequacy of knowledge of students regarding definition, risk factor, principles of neonatal resuscitation and immediate evaluation of newborn in pretest. 45 (60%) student was with inadequate knowledge and 30(40%) students had moderate knowledge in pre-test.

TABLE- 6

FREQUENCY AND PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE OF STUDENTS ON NURSING CARE AND COMPLICATIONS OF NEONATAL RESUSCITATION IN POST-TEST

N=75

S.No.	Level of knowledge on nursing care and complication	Post test	
		No	%
1.	Inadequate (0-50%)	1	1
2.	Moderate (51-75%)	8	11
3.	Adequate (≥ 76%)	66	88
	Total	75	100

Table -6 shows the adequacy of knowledge of student on nursing care and complications of neonatal resuscitation in post-test. 66(88%) students and adequate knowledge and 8(11%) students had moderate knowledge and only on student had inadequate knowledge.
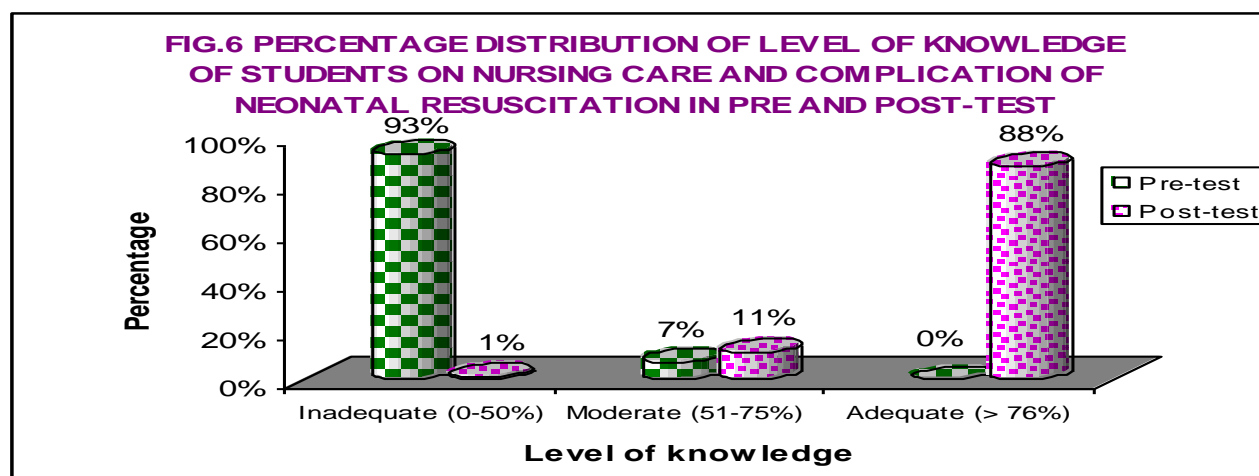

FIG.6 PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE OF STUDENTS ON NURSING CARE AND COMPLICATION OF NEONATAL RESUSCITATION IN PRE AND POST-TEST

TABLE- 7
COMPARISON OF MEAN AND STANDARD DEVIATION OF PRE AND POST TEST ON OVERALL KNOWLEDGE SCORE OF STUDENTS ON NEONATAL RESUSCITATION

N=75

Groups	Mean	S.D	Paired 't' test value	P value
Pre-test	19.93	4.87	44.73	0.000
Post-test	52.54	4.09		(s)

S-Significant

Table -7 shows the mean knowledge score in pre-test was 19.93 with a standard deviation of 4.87. In post-test the mean score was 52.54 with a standard deviation 4.09. The improvement was statistically tested by paired 't' test and the results were found to be significant (P 0.000). This finding indicated that the video teaching programme on neonatal resuscitation was effective.

TABLE -8
ASSOCIATION OF MEAN, STANDARD DEVIATION OF STUDENTS KNOWLEDGE SCORE WITH RESPECT TO THE DEMOGRAPHIC VARIABLES

N=75

S.No.	Group		No.of subject	Mean	SD	Mann-Whitney U test statistic	P value
1.	Age of the student						
	a. 18-20		70	20.00	4.79	198.000	0.624
	b. 21-22		5	19.00	6.55		(NS)
2.	Domicile						
	a. Rural		17	19.35	4.75	447.500	0.564
	b. Urban		58	20.10	4.94		(NS)
3.	Exposed to neonatal resuscitation in the clinical setting	Yes	14	24.07	4.44	678.500	0.001 (S)
		No	61	18.9	5.7		

NS: Not significant
S: Significant

Table -8 shows that there was a significant association between pretest knowledge with demographic variable such as exposed to neonatal resuscitation in the clinical setting (0.001). The other demographic variables such as age and domicile of the students were not significant to the pretest knowledge level which was statistically confirmed with Mann Whitney U test.

TABLE -7
ASSOCIATION OF MEAN, STANDARD DEVIATION OF STUDENTS KNOWLEDGE   SCORE WITH RESPECT TO THE DEMOGRAPHIC VARIABLES

N=75

S.No.	Group	No.of subject	Mean	SD	Mann-Whitney U test statistic	P value
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Table -7 shows that there was a significant association between pretest knowledge with demographic variable such as exposed to neonatal resuscitation in the clinical setting (0.001). The other demographic variables such as age and domicile of the students were not significant to the pretest knowledge level which was statistically confirmed with Mann Whitney U test.

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DISCUSSION:

The pre-test showed that 75 (100%) students has inadequate knowledge, and none had moderate and adequate knowledge on neonatal Resuscitation.

The post-test revealed that 72(96%) students had gained moderate knowledge and none had inadequate knowledge on neonatal resuscitation. There was an improvement in the mean knowledge. Score regarding neonatal Resuscitation which was significant (P<0.00).

The video teaching programme significantly increased the knowledge among III year B.Sc Nursing students regarding Neonatal resuscitation.

There was a significant association between the information received on neonatal resuscitation and their knowledge score about neonatal resuscitation. As the information received on neonatal resuscitation before pretest increases, the knowledge score also increases.

RECOMMENDATION

- A similar study can be done on larger samples to validate and generalize the result.
- A similar study can be conducted usins experimental research design with control group.
- A similar study can be conducted among IV year B.Sc nursing students on neonatal resuscitation.
- A similar study can be conducted among general nursing students.
- A similar study can be conducted to in the hospital settings for the health personnels.
- A follow up study can be conducted to evaluate the effectiveness of structured teaching programme.
- A similar study can be done by using other teaching strategies i.e. structured – teaching programme, comic books, audio caste etc.

CONCLUSION

This study demonstrated that the knowledge of III year B.Sc. Nursing student was inadequate and after the video teaching programme, the knowledge of III year B.Sc. Nursing student improved with regard to neonatal resuscitation such teaching programme should be carried out routinely in the college to improve the knowledge at III year B.Sc. Nursing students and thereby reducing mortality rate of newborn.

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