A Study to Evaluate the Effectiveness of Self Instructional Module on Knowledge Regarding Care of Newborn on Incubator Among the Registered Nurses of Dhanush Hospital, Bagalkot

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Abstract:- The destiny of our beloved land lies not with us but in our children.Today's children are tomorrow's citizen who should be healthy.The physical and mental well being of an individual depends on the correct management of events in the perinatal period.The mortality rate: Neonatal (per 1000 live birth) in India was last reported at 32 in 2010, according to World Bank report published in 2012. The current infant mortality rate in Karnataka state is 65 per 1000 live births. The main reasons for the high rates of neonatal deaths are prematured birth, hygiene and maternal health, the report said.As the 20th century progressed thered is an increasing awareness that preterm infants required special care, as evidenced by the development of incubators and the intensive care nurseries. One in ten babies born in India needs to spend atleast a few days in a neonatal unit to recover from infection and hence require intravenous antibiotics, need extra monitoring or breathing support .Because premature infants often cannot keep themselves warm without help. As a large number of monitoring device for diagnostic and therapeutic application for high risk infants have been developed. These have considerably improved infant survival. The incubator is designed to provide a closely controlled environment for the nursery of sick and preterm infants.

In early years doctors took an increasing role in child birth from the eighteenth century onwards.However the care of newborn babies, sick or well, remained largely in the hands of mothers and midwives.Some baby incubators, were devised in the late nineteenth century. The magnitude of low birth weight infants in developing world is enormous.Out of a total of 22 million such infants in the world 21 million belongs to the developing countries.India's share is quite substantial 7 to 10 million low birth weights constitute 30% live births in India. The most crucial need of low birth weight infants is application of warmth and prevention of heat loss in the distressed infant is absolutely essential for survival, and maintaining a neutral thermal environment is a challenging aspects of NICU.Thermoregulation can be maintained in the incubator in which the infants use fewer calories for heat regulation and thus has low metabolic rate O_2consumption.Administrating O_2 to neonate in the incubator to reduce the risk of injury from hypoxia and retinopathy of prematurity. It was shown that the high concentrations reached inside incubators caused some babies to go blind. Monitoring conditions in the incubator, and the baby itself, was to become a major area of research.

I. OBJECTIVES OF STUDY

- To assess the existing knowledge among registered nurses regarding the care of newborn on the incubator.
- To evaluate the effectiveness of Self Instructional Module regarding the care of newborn on the incubator.
- To find out the association between pre test knowledge of registered nurses regarding the care of newborn on the incubator.

II. HYPOTHESIS

H0: There will be no significance difference between mean pretest knowledge score
and with mean post test knowledge score at the 0.01 level of significance.

H1: The mean post test knowledge score of subjects exposed to SIM on care of
newborn on incubator will be significantly higher than the mean pretest knowledge score as measured by structured knowledge
questionnaire at 0.01 level of significance.

H2: There will be a significant association between pretest knowledge score and
selected demographic variable.

III. RESEARCH METHODOLOGY

Methodology of research indicates the general pattern for organizing the procedure for empirical study together with method of obtaining valid and reliable data for problem under investigation. It is also refers to the techniques used to study together and analysis information in a systematic manner. The study was conducted at neonatal intensive care unit in Dhanush Hospital, Bagalkot.

- *Research Design*

One group pre test-post test experimental design.

- *Research Settings*

The present study conducted on self instructional module about care of newborn on an incubator among the registered nurses.
Self instructional module is administered to the registered staff nurses of Dhanush Hospital, Bagalkot.

- *Population*

The population of this study consists of all registered staff nurses of Bagalkot.

- *Sample*

The present study sample is registered staff nurses of Dhanush Hospital, Bagalkot

- *Sample Size*

The sample size for the study was 30 registered staff nurses

IV. ANALYSIS & INTERPRETATION OF DATA

Age in years	Frequency Number	Percentage (%)
Less than 25	6	20
25-30	20	66.66
31-36	2	6.66
Above 36	2	6.66

Table 1:- Frequency and percentage distribution of demographic variables-Age in Years n=30

The above table reveals that the majority of staff nurses in our study 20 (66.66%) were in the age group of 25-30 years and only 6 (20%) were in the age group of less than 25 years and only 2 (6.66%) belongs to both groups that is 31-36 years and above 36 years.
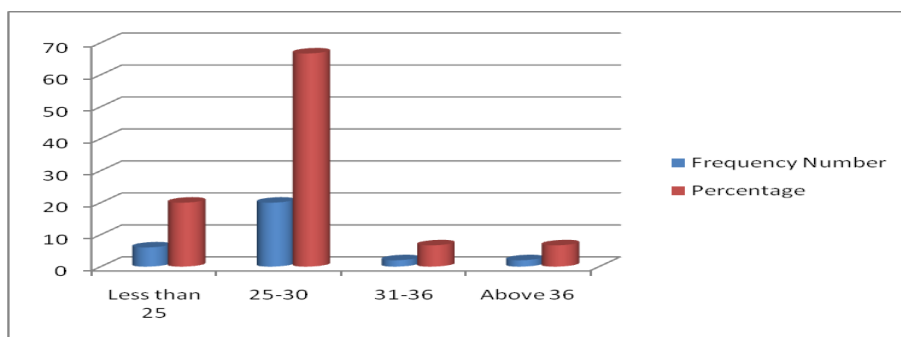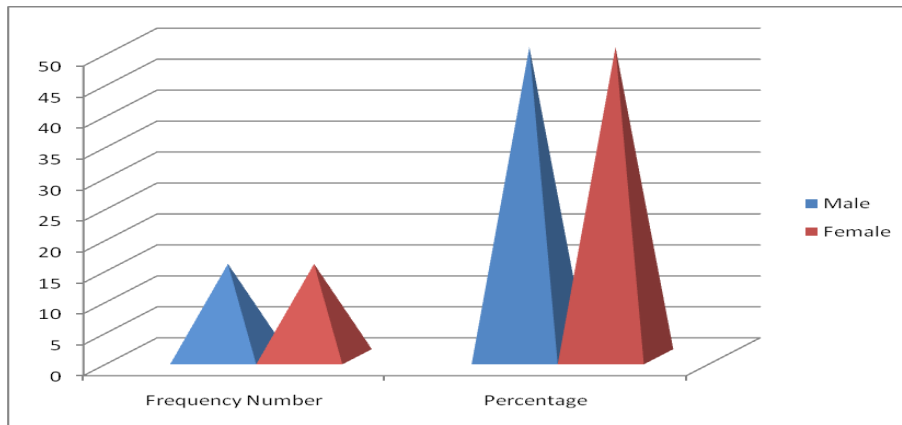

Graph 1:- Graph Showing Frequency and percentage distribution of demographic variables-Age in Years

Gender	Frequency Number	Percentage (%)
Male	15	50
Female	15	50

Table 2:- Frequency and percentage distribution of demographic variables-Gender   n=30

Table 2 reveals that the male staff nurses and female staff nurses in our study are equal that is 15 (50%).
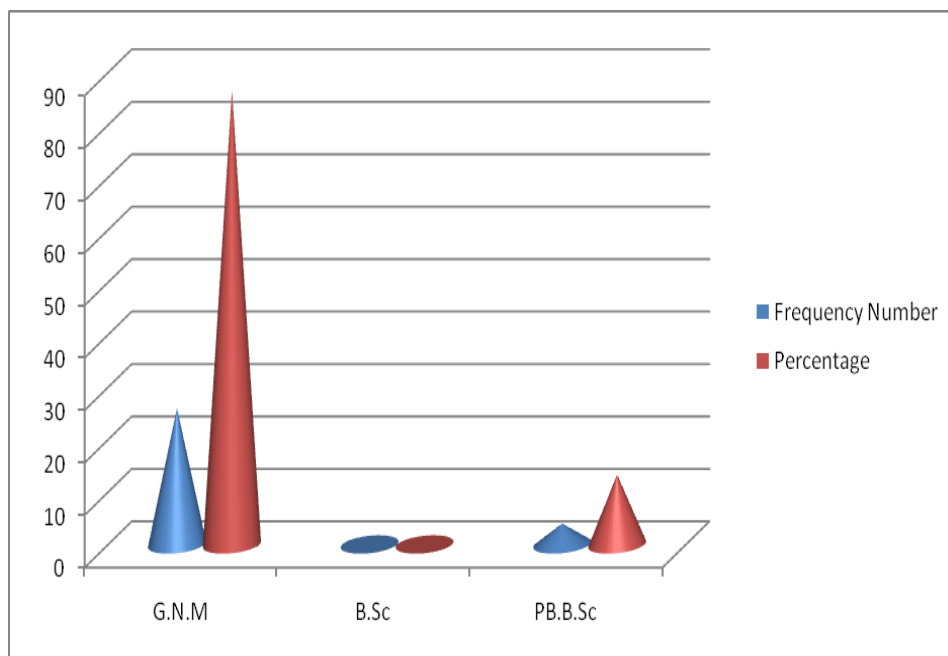

Graph 2:- Graph Showing Frequency and percentage distribution of demographic variables- Gender

Education	Frequency Number	Percentage (%)
G.N.M	26	86.66
B.Sc	0	0
PB.B.Sc	4	13.33

Table 3:- Frequency and percentage distribution of demographic variables-Education; n=30

The above table reveals that the majority of staff nurses 26 (86.66%) is belonging to G.N.M. Only 4 (13.33%) staff nurses are having PB.B.Sc and no B.Sc staff nurses.
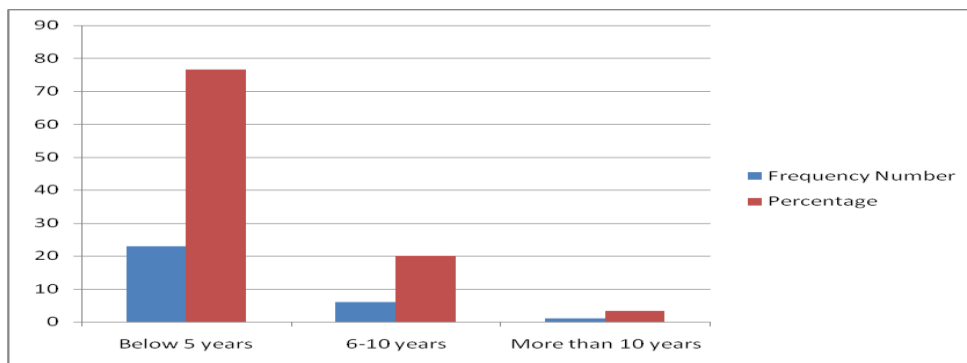

Graph 3:- Graph Showing Frequency and percentage distribution of demographic variables- Education

Experience	Frequency Number	Percentage (%)
Below 5 years	23	76.66
6-10 years	6	20
More than 10 years	1	3.33

Table 4:- Frequency and percentage distribution of demographic variables- Experience: n=30

The above table reveals that the majority of staff nurses 23 (76.66%) having experience below 5 years and 6 (20%) having experience between 6-10 years and only 1 (3.33%) having experience more than 10 years.

Graph 4:- Bar diagram Showing Frequency and percentage distribution of demographic variables- Experience.

Chi-square test showing the association between the knowledge level scores and demographic variables: n=30 The chi square presented in the table shows that there is no any significant association between knowledge level of staff nurses regarding the care of newborn in the incubator and demographic variables such as age, gender, education and experience was not significant 0.01 levels. Hence H2 is rejected.

S N	Demographic Variables	≤Median	>Median	X^2	Df	Remarks
1.	Age in year • Below 20 • 25-30 • 31-36 • Above 36	3 10 2 2	3 10 0 0	3.531	3	NS
2.	Gender • Male • Female	8 9	7 6	0.13572	1	NS
3.	Education • G N M • B.Sc • P. B. BSc	15 0 2	11 0 2	0.08345	2	NS
4.	Experience • Below 5years • 6-10 year • More than 10 years	11 5 1	12 1 0	3.2352	2	NS

Table 5:- Distribution of knowledge scores of subjects on Pre test and Post test on Care of newborn on incubator through Self Instructional Module.

| Area of analysis	Mean	Median	Mode	Standard deviation	Range
Pre test(x)	18	17	15	3.69	17
Post test(y)	26.56	26.5	26.38	7.51	30
Difference (y-x)	8.56	9.5	11.38	3.82	13

Table 6:- Mean, Median, Mode, Standard deviation and Range of knowledge score of subjects on Care of newborn on incubator.

Depicts that, Mean, Median, Mode and Standard Deviation & Range of pre test & post test knowledge score on 30 subjects. The pre test Standard Deviation is 3.69 & post test Standard Deviation is 7.51.

Knowledge score	Pre test		Post test	
	Frequency	Percentage%	Frequency	Percentage%
Good (Mean+1 SD)	4	13.33%	8	26.66%
Average(Mean-1SD to Mean+1SD)	22	73.33%	19	63.33%
Poor(Mean-1SD)	4	13.33%	3	10.00%

Table 7:- Distribution of knowledge score of subjects on Care of newborn on incubator through Self Instructional Module.

Reveals that is the pre test 13.33% had poor knowledge while 73.33% had average knowledge whereas 13.33% had good knowledge. In the post test 26.66% had good knowledge, whereas 63.33% had average knowledge &10.00% had poor knowledge.
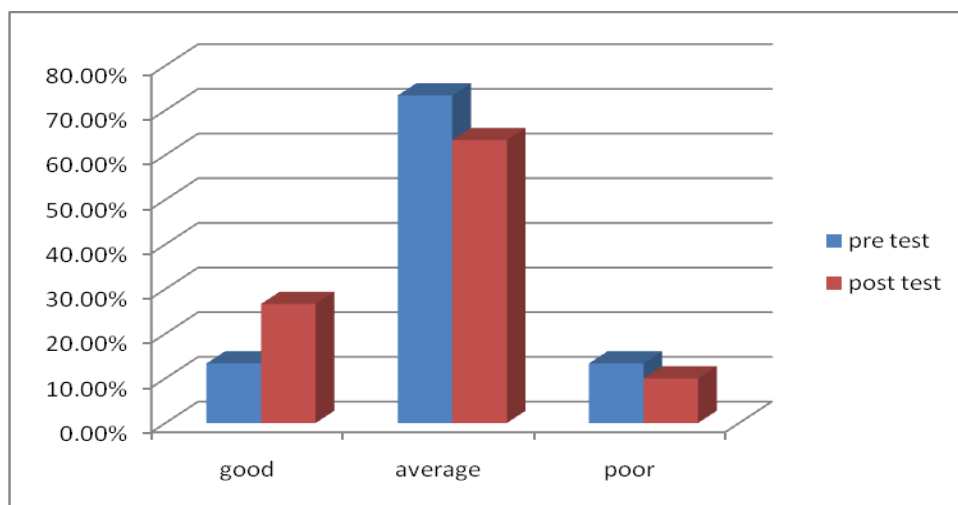
Graph 5:- Bar Diagram showing distribution of knowledge scores of subjects on Care of newborn on incubator through Self Instructional Module.

Mean difference(d)	Paired 't' values		Hypothesis accepted
	Calculated	Tabulated	
8.66	7.104	2.462	H1

Table 8:- Mean Difference, hypothesis, paired 't' values of knowledge score of subjects on care of newborn on incubator.

Inference: $t_{cal} > t_{tab}$. Hence reject H0 and accept H1.

Table 9 reveals that there was significant increase in post test knowledge score through SIM on care of newborn on incubator. The gain in knowledge score was statistically significant at 0.01 level and calculated paired 't'=7.104 i.e., t_{cal} value is more than t_{tab} value hence H1 is accepted and H0 is rejected. Findings reveal that Self Instructional Module on care of newborn on incubator was effective to improve the knowledge of the subjects under study.

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