"Effectiveness of structured teaching programme on knowledge of 3rd year BSc nursing students regarding Kangaroo mother care"

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Abstract:
Background:A quasi experimental study was conducted to assess the effectiveness of structured teaching programme on knowledge of3rd year B.Sc. Nursing students regarding Kangaroo mother care in selected Nursing Colleges, Tumkur district, Karnataka. A total sample of 120, 3rd year B.Sc. (N) students were selected using purposive sampling technique. The objectives of the study were to assess the knowledge level among 3rd year BSc. nursing students regarding kangaroo mother care before and after structured teaching programme and to find out the effectiveness of structured teaching programme on knowledge regarding kangaroo mother care among nursing students. The final objective was to determine the association between pre-test level of knowledge and selected demographic variables.*

Materials and Methods: *A two-group pre-test post-test design was used to conduct the study. A sample comprising of 60 students in experimental and 60 in control group were enrolled using non-probability purposive sampling technique. The conceptual framework of the study was based on Von Bertalanffy's General System Model. Tools used for data collection were demographic Performa and structured knowledge questionnaire.*

Results: *Data analysis was done using descriptive and inferential statistics. Findings of the study revealed that the mean post-test knowledge score 23.51 ± 2.58among experiment group was significantly higher than the mean pre-test knowledge score $14.36\pm3.47(p<0.01)$. Paired t value computed at 13.93^{**} was statistically significant at $p<0.01$.Change in knowledge score among the control group was not significant ($p>0.05$ level).The t test value (18.41^{**}), revealed that, there is significant increase in the mean post-test knowledge score among experimental group compared to the mean post-test knowledge score among control group at 0.01 level. Significant association at 0.05 level was observed between knowledge with regard to their previous knowledge and area of living.*

Conclusion*: The findings of the study confirmed that the structured teaching programme was significantly effective in improving the knowledge on kangaroo mother care among 3rd year B.Sc. nursing students.*

Key Word: *Structured teaching programme, Knowledge,Nursing Students,Kangaroo Mother Care.*

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I. Introduction

Human babies are sensitive and delicate. They are the most dependent young ones and for a much longer time than the young ones of other species. So much care is needed to a new born infant, especially from the mother and this care includes love, affection, warmth, protection, nutrition for good health.[1] Kangaroo Mother Care is the method of holding an infant with skin to skin contact, prone and upright on the chest of the parents. The neuroscience is based on direct skin-to-skin contact, which connects sensory nervous pathways of mother and infant and this method was described as human incubator for low birth weight babies.[1,2] Around 20 million low birth weight babies are born each year, because of either preterm birth or impaired prenatal growth, mostly in less developed countries. Low birth weight (LBW) and preterm birth are thus associated with high neonatal and infant morbidity. This represents more than a fifth. In India, 32.8% of new-born babies are LBW. Larger number of deliveries are unattended by experts especially in rural areas and urban slums. Therefore, the care of such infants becomes a burden for health and social systems everywhere.[3]According to 2014 statistics, Infant mortality rate of India, was 43.19/1000 live births. Karnataka reported 32/1000 live births and in Tumkur district the infant mortality rate was 39/1000 live births.[4]A Randomized controlled trial conducted in 2006 to compare the effect of kangaroo mother care (KMC) and conventional methods of care (CMC) on growth in low birth weight babies (206 neonates) in western India revealed that KMC babies had better average weight gain per day compared to CMC low birth weight babies (KMC: 23.99 g vs CMC: 15.58 g, P< 0.0001). the study concluded that Kangaroo mother care improves growth and reduces morbidities in low birth weight infants.[5] A

studyconducted a study in 2005 to test whether a well-designed educational package on the implementation of kangaroo mother care (KMC) used on its own can be as effective in implementing KMC in a healthcare facility as the combination of a visiting facilitator used in conjunction with the package. Thirty-four hospitals in KwaZulu-Natal Province, South Africa were used as setting. The hospitals were paired based on implementation of package alone (group A) or the implementation package and visits from a facilitator (group B). Findings of the study revealed that Group B scored significantly better than group A (p<.05). Also, Successful implementation was achieved in most of the hospitals irrespective of the strategy used.[6]Kangaroo mother care (KMC) is one of the efficient methods to manage low birth weight and pre-term infants in both home and clinical settings. Keeping this in mind the Investigator(s) throughout this study aims to impart the importance of KMC and to enhance the knowledge level of Kangaroo mother care among nursing students using a structured teaching programme, since it would help them to improve their clinical practice.

Objectives of the study
1. To assess the knowledge level among 3rd year BSc Nursing students regarding KMC before and after structured teaching programme.
2. To assess the post-test knowledge level of 3rd B.Sc. Nursing students regarding KMC
3. To findout the effectiveness of structured teaching programme on knowledge regarding KMC among 3rd year B.Sc. Nursing students
4. To determine the association between knowledge level and selected demographic variables.
   Hypothesis
➢ H$_1$-There is significant difference in mean knowledge scores before and after structured teaching programme among experimental group.
➢ H$_2$- There is significant difference in mean post-test knowledge scores among experimental and control group.
➢ H$_3$- There is significant association between knowledge level of nursing students with selected socio-demographic variables.

II. Material and Methods

Research Approach: Quasi experimental approach.
Research Design: Two group pre-test – post-test design.
Population: 3rd year B.Sc. Nursing students
Settings: Varadaraja college of Nursing and Akshaya College of Nursing, Tumkur district, Karnataka.
Sampling Technique: Non –probability purposive sampling technique.
Sample size:120 3rd year B.Sc. nursing students (60 in experimental and 60 in control group).

Tools and Technique
I) A Demographic Performa was used to collect socio demographic data such as age, gender, religion, parent's education status, previous knowledge, source of information, type of family and area of living.
II) A Structured Knowledge Questionnaire was used to assess the Knowledge regarding kangaroo mother care which consisted of 30 items divided in to eight areas (Introduction & definition, components, prerequisites, benefits, eligibility criteria, preparation and procedure, time of initiation and duration and discharge criteria)
III) A structured teaching programme (STP) was administered for a duration of 45 minutes for 60 samples in experimental group (3rd year B.Sc. nursing students, Varadaraja College of nursing). Lecture cum discussion was used as a teaching methodology along with a variety of AV aids including LCD/PowerPoint presentation, Charts, Flash Cards, OHP sheets and video assisted modules.
Method of Data collection: Data was collected for a period of one month [25th March 2016 to 25th April 2016]. After explaining the purpose and obtaining an informed consent, the pre-test was administered for both colleges followed by a structured teaching programme for experimental group. After a period of 07 days a post test was carried out for both experimental and control groups.
Inclusion criteria:3rd year BSc nursing students who were willing to participate in the study
Students who were available at the time of data collection
Exclusion criteria:
Students who were not willing to participate in the study
Students not available during the period of data collection
Statistical analysis:
Both Descriptive and Inferential statistics were used to analyse the data [using SPSS version 20 (SPSS Inc., Chicago, IL)]. Descriptive statistics such as Frequency distribution and percentage were used to describe the socio demographic data and Inferential statistics such as student t test was used to find out the effectiveness of STP by comparing the mean knowledge scores between experimental and control group, paired *t*-test was used

to determine the difference between mean knowledge scores before and after the intervention. Chi-square was performed find out the association between knowledge and selected demographic variables. The level $P < 0.05$ was considered as the minimum accepted level of significance.

III. Results

Table 01: Frequency distribution and percentage of sample characteristics (N=120)

Demographic Variables	Experimental		Control	
Age (In years)	**f**	**%**	**f**	**%**
19 yrs.	05	08.33%	08	13.33%
20 yrs.	33	55.00%	37	61.67%
Above 20 yrs.	22	36.67%	15	25.00%
Gender				
Male	19	31.67%	22	36.67%
Female	41	68.33%	38	63.33%
Religion				
Hindu	23	38.33%	26	43.33%
Muslim	19	31.67%	22	36.67%
Christian	18	30.00%	12	20.00%
Parent's education status				
Primary Education	11	18.33%	08	13.33%
Secondary Education	27	45.00%	34	56.67%
Graduates and above	22	36.67%	18	30.00%
Previous knowledge				
Yes	19	31.67%	24	40.00%
No	41	68.33%	36	60.00%
Source of information				
Family & Friends	44	73.33%	38	63.33%
TV and News Paper	10	16.67%	12	20.00%
Other mass media	06	10.00%	10	16.67%
Type of family				
Nuclear	39	65.00%	42	70.00%
Joint	21	35.00%	18	30.00%
Area of living				
Rural	19	31.67%	24	40.00%
Urban	41	68.33%	36	60.00%

Figure 01: Bar Diagram showing frequency distribution and percentage of pre-test and post-test
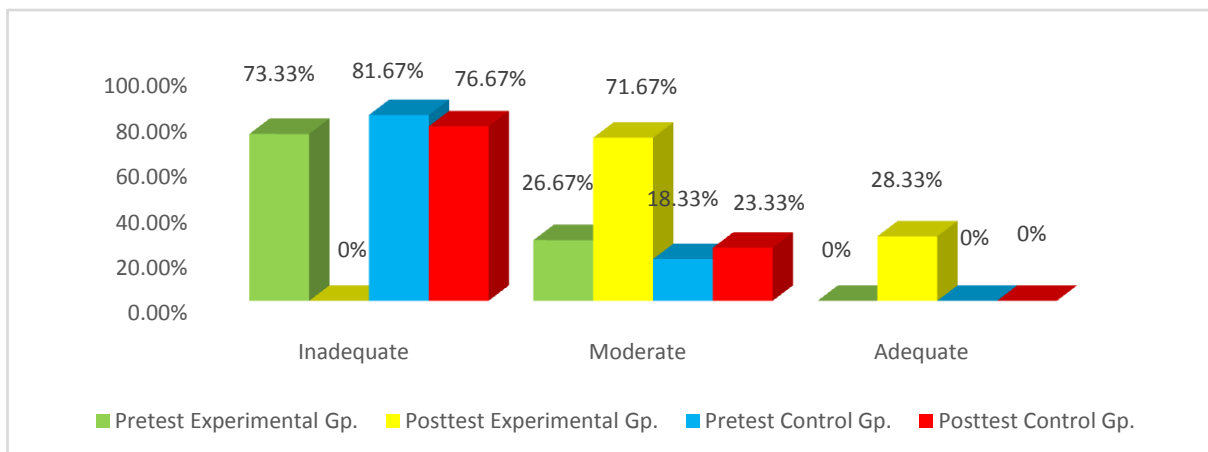
nowledge level regarding KMC among nursing students

Table 02: Mean, Standard deviation and Paired 't' value of knowledge level among nursing students before and after STP.

(N=120)

Group	Stage	Mean	SD	Mean Difference	df	Paired t	p
	Pre-test	14.36	3.47	9.15	59	13.938**	0.000

Experimental							
	Post-test	23.51	2.58				
	Pre-test	13.30	2.72				
Control				0.38	59	1.358	0.180
	Post-test	13.68	3.23				

** Significant at 0.01 level

Table 02 shows that mean knowledge score among the experimental group before the structured teaching programme was 14.36 ± 3.47 and that among the control group was 13.30 ± 2.72. After the Intervention (Structured teaching programme), among the experimental group, the mean knowledge score increased to 23.51 ± 2.58. Increase in knowledge score after structured teaching programme in the experimental group was statistically significant ($p<0.01$). Mean knowledge score among the control group on post-test was 13.68 ± 3.23. Change in knowledge score among the control group at post-test was not statistically significant. Hence research hypothesis (H_1) was accepted.

Table 03: Mean, SD, t value of knowledge level among nursing students in experimental and control group **(N=120)**

Stage	Group	Mean	SD	df	t	p
	Experimental	14.36	3.47			
Pre-test				118	1.871	0.064
	Control	13.30	2.72			
	Experimental	23.51	2.58			
Post test				118	18.41**	0.000
	Control	13.68	3.23			

** Significant at 0.01 level

Table 03 shows that there was significant increase in the mean knowledge score of 3rd year BSc nursing students in experimental as compared to control group at 0.01 level. Hence research hypothesis (H_2) was accepted. Therefore, it is interpreted that there is significant increase in the knowledge scores among experimental group following structured teaching programme.

Table 04: Association between knowledge level among nursing students and selected demographic variables. **(N=120)**

Demographic Variables	Knowledge level				df	χ^2	p
	Inadequate		Moderate				
	f	%	f	%			
Previous knowledge Yes	27	31.66%	16		01	8.315**	0.004
No	66	68.33%	11				
Area of living							
Rural	29	31.66%	14		01	3.888*	0.049
Urban	64	68.33%	13				

** Significant at 0.01 level, *Significant at 0.05 level.

The above table depicts that the calculated χ^2 value for previous knowledge is significantly higher than the table value ($p<0.01$ level). So, there is association between previous knowledge and knowledge level of KMC; Also, there is association between area of living and knowledge level ($P<0.05$ level of significance).Hence the research hypothesis H_3 was accepted. The score changes also reflect the effectiveness of the intervention.

IV. Discussion
The findings in the present study revealed that the mean pre-test knowledge score regarding KMC among experimentel group was 14.36 ± 3.47 and mean post test score was 23.51 ± 2.58.The paired t value [13.938**, df=59] computed by comparison ofpre and post knowledge score among experimental group was

significant at P<0.01 level.Hence, there is significant difference in the mean knowledge scores of nursing students before and after STP which is significant in enhancing the knowledge levels regarding KMC among nursing students. The experimental group shows improvement in knowledge scores compared to the control group. The student t test value (18.41**) computed by comparing the mean post-test knowledge score among experimental group [23.51±2.58, df=118] and mean post-test knowledge score [13.68±3.23, df=118] among control group is statistically significant at 0.01 level. Therefore, it is interpreted that Structured teaching programme is significant in improving the knowledge [P< 0.01 level]. This resultis supported by various studies. A study conducted byNeelimarani GR, to assess the knowledge gain with video assisted teaching on Kangaroo mother care among B.Sc. nursing students at Hyderabad revealed that the mean post test scores (35.22) improved following the intervention, t value 9.64(df=29) was significant at 0.01 level.

V. Conclusion

The study was conducted to assess the effectiveness of structured teaching programme on knowledge regarding kangaroo mother care among 3rd year B.Sc. nursing students. The results of the study undoubtedly confirm that the post-test knowledge score in the experimental group is significantly higher than the pre-test knowledge score and there were no significant changes in the mean knowledge score in the control group. Therefore, it is concluded that STP is significantly effective in enhancing the knowledge level regarding kangaroo mother care among nursing students.

limitations

➢ The study used a purposive sampling, the generalization of findings remains restricted.
➢ The influence of extraneous variables during the period between pre-test and post-test on the control group cannot be explored.
➢ No follow-up was made to measure the retention of knowledge.

Recommendations

A similar study can be replicated among 3rd General nursing and Midwifery (GNM) students
A comparative study can be conducted between 3rd year BSc. and GNM students
A Study can be replicated among health workers
A similar Study can be conducted among Primi antennal mothers

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