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Video Assisted Teaching on Knowledge and Practice on Kangaroo Mother Care among Mothers of Preterm Babies.

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ABSTRACT

Prematurity accounts for the largest number of admission to Neonatal Intensive Care Units. As per the WHO estimation every year 15 million babies are born Preterm. Approximately 1million infant deaths in 2015 are due to Prematurity. Most of these deaths are preventable using measures like Kangaroo Mother Care, exclusive breast feeding. Nurses play an important role in educating the Mothers, Primary care givers about KMC. This study aims to determine the "Effectiveness of Video Assisted Teaching on Knowledge and Practice on Kangaroo Mother Care among Mothers of Preterm Babies, Admitted in Selected Children's Hospitals, Bengaluru-02". An experimental, one group Pre-test, Post-test design is used for the study. 50 Mothers of Preterm babies were selected using Non probability convenient sampling method. Pretest was conducted using Structured Interview Schedule and Observation checklist, followed by Video Assisted Teaching on KMC. After 7 days Post test was conducted. Findings reveals that, Majority (56%) are between18-27years. Majority 42% had high school education.52% were Primi mothers. Majority 72% delivered normally. 50% of the babies were late preterm, (34-36weeks of GA). Majority (48%) babies were between 1500-2000gm birth-weights. There was no association between knowledge and Practice scores with demographic variables except for Knowledge with Educational status(X^2=19.603) and Practice with Occupation of mothers(X^2=53.661).Paired t test is of Knowledge is 18.851 & of Practice is 17.542 (t =2.00, P= 0.0001, 0.05 significance & 49 df). The Positive Correlation between Pre and Post Knowledge and Practice values indicates video assisted teaching on KMC on mothers of Preterm babies was effective. The overall findings of the study indicates that Video assisted teaching on KMC is effective in improving the Knowledge and Practice levels of Mothers.
Keywords: Kangaroo Mother Care, degree of freedom, Gestational Age, World Health Organization.

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INTRODUCTION

The bond between mothers and their children are unending, so are the wisdom, grace, and strength they provide to their children. Birth rate is a, frequency of live births in a given population, conventionally calculated as the annual number of live births per 1000 inhabitants. World Birth rate is, 18.2 births/1,000 population (as per 2018)[1]. Worldwide Preterm births are epidemic with a global incidence of 15 million per year. The incidence, gestational age, and underlying etiology of preterm birth is highly variable across different racial and ethnic groups and geographic boundaries[2].

Kangaroo mother care(KMC)is a skin–to–skin contact which is a part of revolution in care method of Preterm Babies, defined as continuous (as close to 24 h a day as possible) skin-to-skin contact between mother and her infant, ensured by placing infant in a strictly upright position on mother's chest (kangaroo position). Nutrition is ensured on frequent or exclusive breastfeeding and early discharge from the hospital has been effective in reducing the risk of mortality among preterm and low birth weight infants[3].

Kangaroo Mother Care is cost– effective, has abundant advantages to mother and infant. It helps in better regulation of infant heartbeat. Babies on KMC have stable oxygen rates and breathing. Breast milk production is stimulated by skin to skin care and baby gets all the benefits of breast milk. It decreases infant crying and irritability. When baby is calm, food can be properly absorbed in the stomach, so the baby grows faster. The baby's temperature stabilized much faster on the mother's chest than in an incubator. KMC improves infant's sensory feelings by hearing mother's heartbeat, warm touch, mother's odor and visual contact with mother during breast feeding[4].
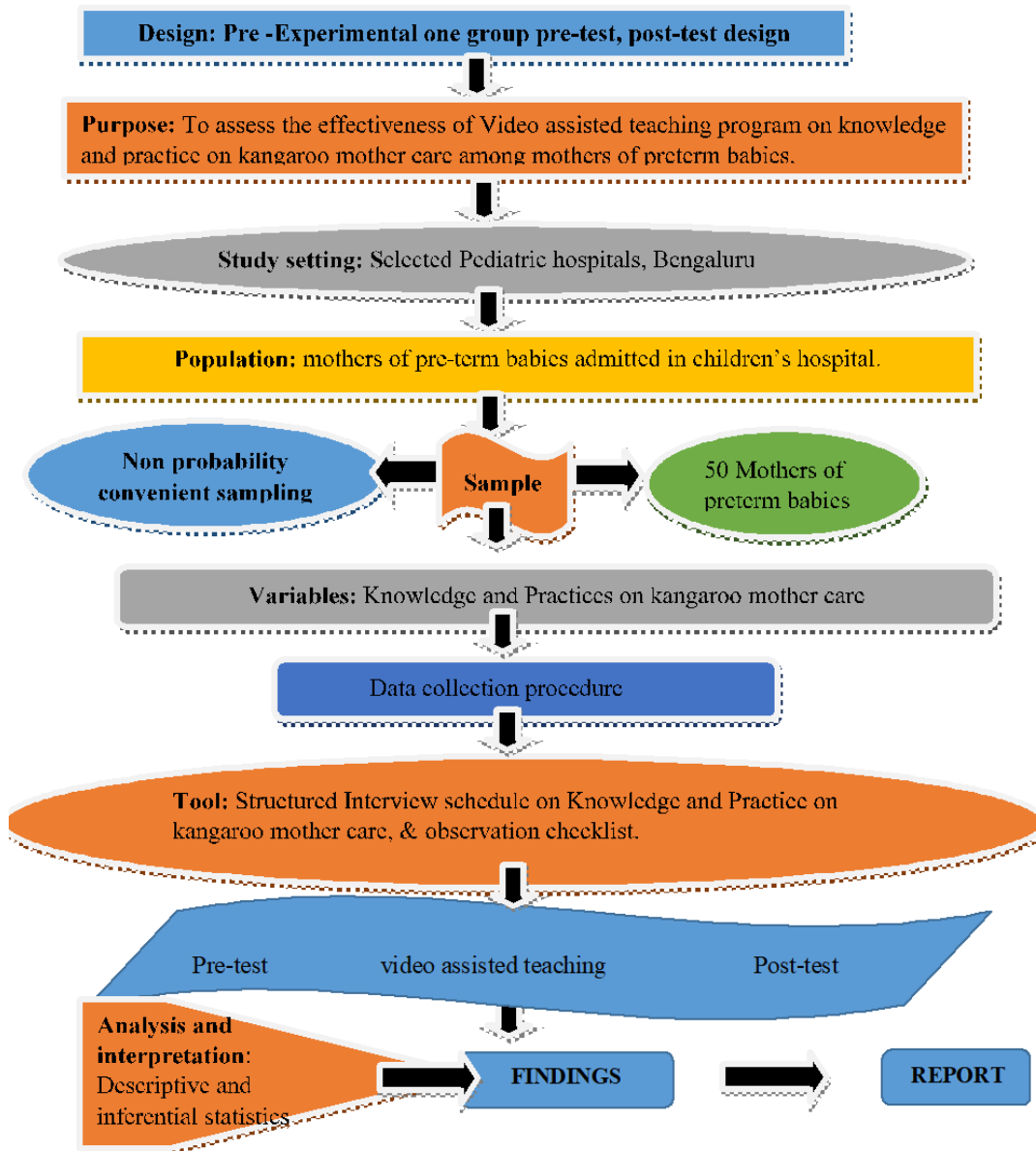
Preterm birth (<37 completed weeks of gestation) is the largest direct cause of neonatal mortality, accounting to an estimated 27% of the 4 million neonatal deaths every year. It is also an important risk factor for neonatal deaths especially from infection. In high-income countries, preterm birth is the dominant cause of neonatal mortality and morbidity and also a contributor to long term impairment. In low-income countries, whilst deaths directly due to preterm birth are a smaller proportion of deaths, the cause-specific mortality rate is ~6-fold greater than in high-income countries. Each year 60 million babies are born outside facilities and even among those born in facilities in low-income countries, few babies who need not receive basic care[5].

About 11.4% of all pregnancies end in early deliveries or Preterm deliveries. In 450,000 babies in the United States alone are born Preterm and 15 million babies are born preterm around the world - that's 1 in 10! 80 plus percent of preterm births are unanticipated as estimated on Nov 25, 2018[6-8].

There are new guidelines with recommendations developed by WHO for improving outcomes of preterm births. The guidelines include interventions provided to the mother like for example steroid injections before birth, antibiotics when her water breaks before the onset of labour and magnesium sulfate to prevent future neurological impairment of the child. As well as interventions for the newborn baby include thermal care, feeding support, kangaroo mother care, safe oxygen use, infection prevention and other treatments to help babies breathe more easily[9]. In India, out of 27 million babies born every year (2010 data), 3.5 million babies born are premature. As per data obtained on May 23, 2016 [10].

Prematurity accounts for the largest number of admissions to Neonatal Intensive Care Units. As per the WHO estimation every year 15 million babies are born Preterm. Approximately 1million infant deaths in 2015 are due to Prematurity. Most of these deaths are preventable using measures like Kangaroo Mother Care, exclusive breast feeding. Nurses play an important role in educating the Mothers, Primary care givers about KMC. Therefore, this study aims to determine the Effectiveness of Video Assisted Teaching on Knowledge and Practice on Kangaroo Mother Care among Mothers of Preterm Babies, Admitted in Selected Children's Hospitals, Bengaluru-02.

MATERIALS AND METHODS

Design: Pre -Experimental one group pre-test, post-test design

Purpose: To assess the effectiveness of Video assisted teaching program on knowledge and practice on kangaroo mother care among mothers of preterm babies.

Study setting: Selected Pediatric hospitals, Bengaluru

Population: mothers of pre-term babies admitted in children's hospital.

Non probability convenient sampling   Sample   50 Mothers of preterm babies

Variables: Knowledge and Practices on kangaroo mother care

Data collection procedure

Tool: Structured Interview schedule on Knowledge and Practice on kangaroo mother care, & observation checklist.

Pre-test   video assisted teaching   Post-test

Analysis and interpretation: Descriptive and inferential statistics   FINDINGS   REPORT

DESCRIPTION OF THE TOOL

1. Structured Interview Schedule, Constructed in two parts

Part I - Socio Demographic data.
Part II a - Knowledge and practice Based questionnaire to assess the knowledge and practice regarding Kangaroo Mother Care.

It consists of 30 items divided in to 3 sections

Section 1: General information on Preterm birth and baby.
Section 2: General information and components on Kangaroo Mother Care.
Section 3: General aspects of care and monitoring during Kangaroo Mother Care.

Scoring of the items: The score for correct response is "1" and incorrect response is "0". Maximum score can be 30.

To find the association with the selected demographic variables and knowledge scores, respondents are categorized into three groups.

Below 50%:   In-adequate knowledge, 50-75%:   Moderate knowledge and >75%:   adequate knowledge.

Part II b- Observation check list consists of 13 items including duration of KMC given.

0 – 4: Poor performance, 5- 9: Average performances and 10- 12 Good Performance.

Duration of Kangaroo Mother Care given was assessed separately.

Part III- Video assisted teaching on Kangaroo Mother Care for Preterm babies.

RELIABILITY OF THE TOOL

Split half method with Spearman's Brown prophecy formula was used to test the reliability of the tool. The reliability co-efficient, r= 0.86.

RESULTS

Data were entered in a master sheet, for tabulation and statistical processing. The findings were presented under the following headings. Results were represented as distribution of respondents according to demographic variables, aspects wise and over all distribution of scores in Pretest and posttest, association between knowledge and practice scores with demographic variables, and Correlation between Knowledge and practice scores.

The sociodemographic data related to Age, Religion, Educational status and occupation in shown in table-1. Findings in the table 2 reveals that, 52% mothers were Primi mothers, Majority 50% of the babies were late preterm, born between 34-36weeks, only 2% were very early preterm born between 25-28weeks of gestation age. As per the data findings 48% babies were between 1500-2000gm birth weights, and only 2% were below 1000gm. The Subjects based on Previous Information on Kangaroo Mother Care is shown in figure-1, shows that, 84% of the mothers had the information on kangaroo mother care.

Table-3 Shows that there is significant difference between pre and post-test mean, standard deviation values, with positive enhancement in Knowledge level of the subjects following video assisted teaching method.

Table-4 shows that there is significant difference between pre and post-test values, of practice scores, with positive mean enhancement in practice level of the subjects by 2.94 which says that there is significant impact of video assisted teaching on effective practicing of Kangaroo mother care by the mothers of preterm babies.

Table 5 depicts the chi square of educational status with the post -test knowledge score is 19.603 which is greater than the P value 0.0001 at 0.05 level of significance and 3 df. This indicates that there is positive impact of education levels of the respondents on the knowledge scores in the post-test. By calculating association between Post-test practice scores, there is significant association between occupation of mothers and the practice scores. The calculated chi square value is 53.661. The correlation between Pretest Knowledge and Pre-test Practice is r =0.349, (figure-2) & the correlation between Post-test Knowledge and Practice scores is r= 0.532 (figure-3) at 0.05 level of significance, and both are Positive correlations.

Table 1: Distribution of samples by Age, Religion, Educational status and occupation.

Sl.no	Characteristic	Category	Respondents Number	Percentage
1.	Age in years	18-22YRS	19	28%
		23-27YRS	19	28%
		28-32YRS	9	18%
		33-37YRS	3	6%
2.	Religion	Hindu	29	58%
		Muslim	17	34%
		Christian	4	8%
3.	Educational status	Primary	7	14%
		High school	21	42%
		PUC	16	32%
		Graduate	2	4%
		Post graduate	4	8%
4.	Occupation	Home maker	42	84%
		Private job	5	10%
		Government job	0	0
		Daily income	3	6%
5.	Type of family	Joint family	31	62%
		Nuclear family	19	38%
6.	Place of residence	Urban	25	50%
		Rural	25	50%
7.	Family income	6000-10000	5	10%
		11000-15000	8	16%
		16000-20000	14	28%
		21000-25000	9	18%
		26000-30000	8	16%
		31000-35000	6	12%

Table 2: Distribution of data According to Number of living children, mode of delivery, Gestational age at birth, birth weight of baby.

Sl.no	Characteristics	Category	Respondents Number	Percentage
1.	Number of living children	One	26	52%
		Two	12	24%
		three and above	2	4%
2.	Mode of delivery	Normal	36	72%
		LSCS	13	26%
		Forceps	1	2%
3.	Gestational age	25-28WK	1	2%
		28-31WK	8	16%
		31-34WK	16	32%
		34-37WK	25	50%
4.	Birth weight of baby	500-999G	1	2%
		1000-1499G	15	30%
		1500-1999G	24	48%
		2000-2499G	10	20%

Table 3: Overall Pre-test and Post-test Mean Knowledge on Kangaroo Mother Care for Preterm Babies

Aspects	Max score	Respondents' knowledge			Paired t test
		Mean	SD	Mean (%)	18.851*
Pre-test	30	17.16	3.99	57.2	
Post-test	30	26.48	2.54	88.26	
Enhancement		9.32	3.49	31.06	

*Significant at 0.05 Level, t (0.05, 49Df) =2.00

Table 4: Description of Pre-test and Post-test mean Practice Scores(12 points)

Aspects	Max score	Respondents practice level			Paired t test
		Mean	SD	Mean (%)	17.542*
Pre-test	12	6.78	1.502	56.5	
Post-test	12	9.72	1.310	81	
Enhancement		2.94	0.192	24.5	

*Significant at 0.05 Level, t (0.05, 49Df) =2.00

Table 5: Association of Post-test knowledge scores with the demographic variables

Variables	Category	Sample	Post-test knowledge Level				Chi square value	P VALUE
			Adequate		Moderate			
			No	%	No	%		
Age	18-22years	18	16	34.0	2	66.7	1.635**	0.561
	23-27years	20	19	40.4	1	33.3		(3df)
	28-32years	10	10	21.2	0	0		
	33-37years	2	2	4.25	0	0		
Religion	Hindu	29	27	57.4	2	66.7	0.297**	0.865
	Muslim	17	16	34.0	1	33.3		(2df)
	Christian	4	4	8.51	0	0		
Education	Primary	7	4	8.51	3	100	19.603*	0.0001
	Secondary	21	21	44.6	0	0		(3df)
	PUC	18	18	38.2	0	0		
	Graduate & above	4	4	8.51	0	0		
Occupation	Home maker	44	42	89.3	2	66.67	0.297**	0.862
	Private job	5	5	10.6	0	0		(2df)
	Daily Wages	1	0	0	1	33.33		
Area of Residence	Rural	25	15	53.5	10	45.4	0.325**	0.569
	Urban	25	13	46.4	12	54.5		(2df)
Type of Family	Nuclear	19	19	40.4	0	0	1.956**	0.162
	Joint	31	28	59.5	3	100		(1df)
Number of Living Children	One	36	35	74.4	1	33.3	3.211**	0.201
	Two	12	10	25.5	2	66.7		(2df)
	Three & above	2	2	4.25	0	0		
Gestation Age At Birth	25-28weeks	5	5	10.6	0	0	3.457**	0.326
	28-31weeks	9	9	19.1	0	0		(3df)
	31-34weeks	12	10	21.2	2	66.7		

	34-37weeks	24	23	48.9	1	33.3		
Mode Of Delivery	Normal	36	33	70.2	3	100	1.241**	0.538 (2df)
	LSCS	13	13	27.6	0	0		
	Forceps	1	1	2.1	0	0		
Birth Weight Of Baby	500-1000gm	1	1	2.1	0	0	1.001**	0.801 (3df)
	1000-1500gm	16	15	31.9	1	33.3		
	1500-2000gm	23	21	44.7	2	66.7		
	2000-2500gm	10	10	21.3	0	0		
Previous Information On KMC	Yes	6	6	12.7	0	0	0.435**	0.509 (1df)
	No	44	41	87.2	3	100		
Source of information	Health Personnel	15	10	35.7	5	22.7	2.644**	0.619 (4df)
	Family	17	8	28.5	9	40.9		
	Health personnel &family	15	9	32.1	6	27.2		
	Health personnel, family, media	2	1	3.5	1	4.5		
	Media	1	0	0	1	4.5		

*significant at 0.05 level of significance   ** Not significant at 0.05 level of significance
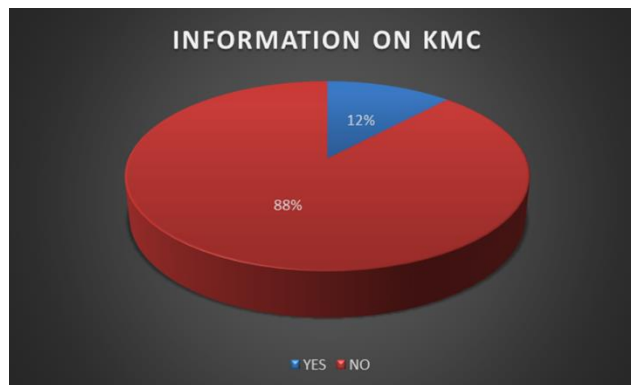

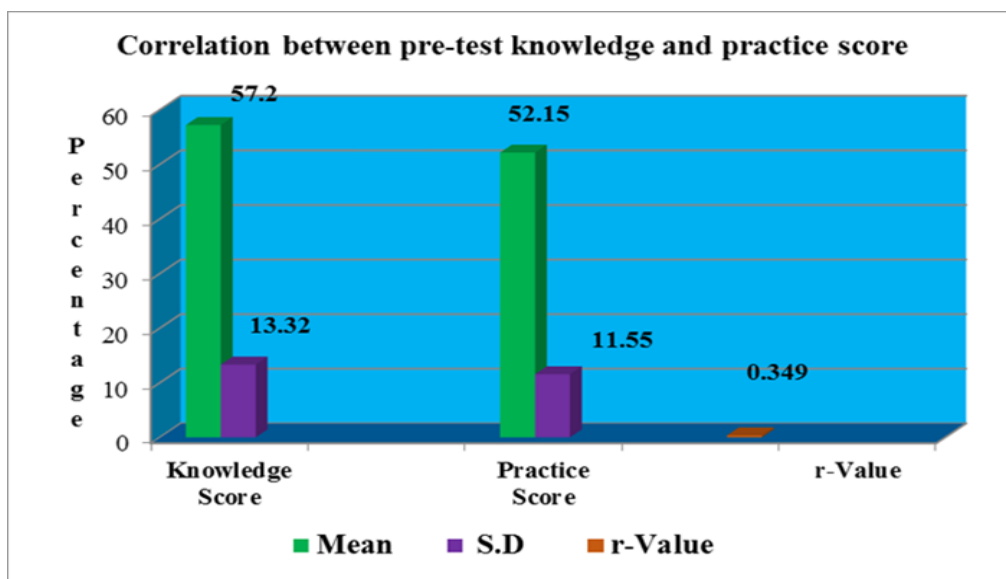**Figure 1: Representation of Subjects based on Previous Information on KMC**

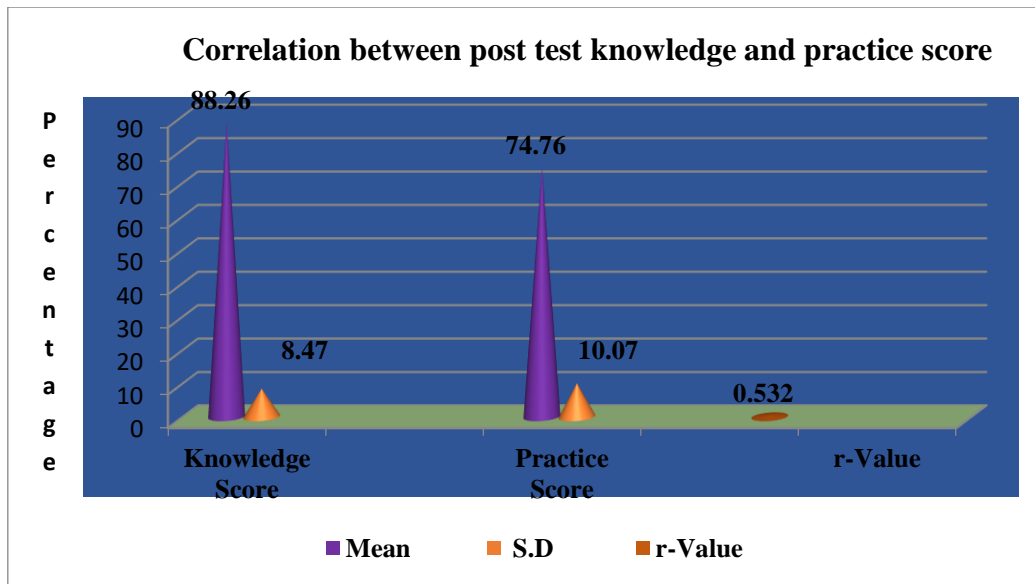**Figure 2: Correlation between Pre-test Knowledge and Practice.**

Figure 3: Representation of correlation Between Post-test Knowledge and Practice scores.

DISCUSSION

Knowledge and practice scores of Mothers of Preterm Babies regarding kangaroo Mother Care was inadequate (Knowledge Mean-17.16, SD-3.99) and Poor (Practice Mean-6.78, SD-1.502) during the Pretest which significantly improved (Knowledge Mean-26.48, SD-2.54) and (Practice Mean-9.72, SD-1.310) in the Post-test. A significant enhancement in the Post test Knowledge and Practice scores of Mothers of Preterm babies from the Pre-test Knowledge and Practice scores was observed. Hence the H1 is accepted.

The present study, Effectiveness of video assisted teaching on knowledge and practice on kangaroo mother care among mothers of preterm babies, admitted in selected children's hospitals, Bengaluru was conducted with a view to assess the existing knowledge of mothers on kangaroo mother care, to assess the existing practice of Mothers on Kangaroo Mother Care, to evaluate the effectiveness of video assisted teaching program on knowledge and practice on kangaroo mother care among mothers of preterm babies admitted in selected children's Hospitals, Bengaluru, to find the association between post- test score and selected socio demographic variables of mothers of preterm babies admitted in selected children's hospitals, Bengaluru and to find the correlation between knowledge and practices of kangaroo mother care among mothers of preterm babies admitted in selected children's hospitals, Bengaluru.

The independent variable is a Video Assisted Teaching regarding Kangaroo Mother Care for mothers of preterm babies and the dependent variable is the Knowledge and Practice of Mothers of Preterm Babies regarding Kangaroo Mother Care. In this study we intended to test 2 hypotheses namely, the mean post-test knowledge and practice scores among mothers of preterm babies will be significantly higher than their pretest knowledge and practice scores and there will be significant association between the post-test knowledge and practice scores with the selected socio demographic variables among mothers of preterm babies. The present study is related preterm birth and care like Kangaroo Mother Care on Preterm/low birth weight babies including Knowledge, Attitude & Perceptions on kangaroo mother care with video assisted teaching.

In present study, a significant association between Post-test Knowledge scores with Educational status (X^2 =19.603) and Post-test Practice scores with Occupation (X^2=53.661) of Mothers of Preterm babies was observed. Hence the H2 is accepted.

From this study, we can recommend that, a similar study can be replicated on a large sample to generalize the findings, an experimental study with control group can be conducted for effective comparison of the results, a comparative study can be conducted to find the effectiveness of Kangaroo Mother Care and Conventional Methods of Care, and Manuals, Information booklets and self-instruction module may be developed in areas of Kangaroo Mother Care.

CONCLUSION

It appears that the mothers of preterm babies are little aware of the Kangaroo other care and its benefits for their child. As providing health education is a main activity of nursing care, nurses must prove their roles by actively participating in educating the target populations as when needed on regular basis. The health education becomes effective when the appropriate technology is used to make the sessions interesting. Thus using the video, audio methods which captures the attention span for longer time and gives clear picture about the matter or topic we discuss.

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