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Effectiveness Of Video Assisted Teaching Programme Regarding Parent Centered Developmental Care On Maternal Competency Among Mothers Of Preterm Neonates Admitted To NICU In The Selected Hospital, Puducherry-A Pilot Study Report

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Abstract

Preterm birth, defined as birth at less than 37 completed weeks of gestation, remains a significant cause of infant mortality and morbidity worldwide. Preterm births are on the increase globally with about 15 million babies born preterm annually .Parents are central to children's health and development and successful parenting is a key element in promoting overall parental wellbeing as well as children's physical and psychosocial development. Family integrated care (FIC) is increasingly becoming a more popular model of care delivery in neonatal units.

Objective

To assess the existing level of competency on Parent Centered Developmental Care among the control and experimental group mothers of preterm neonates admitted in NICU

Methodology

Quantitative research approach and Quasi experimental design was adopted in this study. Simple random sampling Technique was adopted to select the sample for the study. Total 21 Samples - 10 for experimental group and 11 for control group were selected .

Result and Findings: Regarding demographic variable of Mother and newborn shows that highest number 3(30%) & 3(27.3%) of Women were in the age group of 31-35years.

With regards to level of Competency of mothers result shows that during pretest mothers 8(80%) had incomepetent level of practice and 2(20 %) had competency to perform the care for new born in the experimental group ,10(90%) had incomepetent level of practice and 1(10 %)had competency to perform the care for new born in the control group .

Whereas in post test 7(70%) mothers had achieved the level of competency and still 3(30 %) mothers were considered as incompetent in the experimental group and 9(88%) mothers had not achieved the

level of competency and 2(12 %) mothers were considered as competent in the control group.

Conclusion

This above result of the study clearly indicates that there was significant improvement in the level of Competency after teaching programme and thus the Video assisted teaching programme on PCDC was found effective in improving the level of Competency among mothers of Preterm neonates.

Introduction

Preterm birth, defined as birth at less than 37 completed weeks of gestation, remains a significant cause of infant mortality and morbidity worldwide. Preterm births are on the increase globally with about 15 million babies born preterm annually [1]. Compared to babies born at term, preterm babies carry a higher risk of developmental delays and learning disabilities and are increasingly vulnerable to conditions such as cerebral palsy, respiratory illnesses, feeding difficulties, and vision problems [2-4]. Caring for a preterm baby can be challenging and stressful to parents. Studies have consistently documented higher levels of stress and parenting difficulties among parents of preterm babies compared to those of babies born at term [5-6]. Parents are central to children's health and development and successful parenting is a key element in promoting overall parental wellbeing as well as children's physical and psychosocial development. The importance of supporting parents in the early years of their children's lives is reflected in a range of parenting programs developed over the years [16]. There is good quality evidence to demonstrate the effectiveness of early interventions in facilitating effective parenting and thereby promoting children's health and psychosocial development [7-11]. Various early intervention programs have been developed and delivered for parents of preterm babies .

Premature birth has been associated with a number of adverse maternal psychological outcomes that include depression, anxiety, and trauma as well as adverse effects on maternal coping ability and parenting style. Infants and children who were premature are more likely to have poorer cognitive and developmental functioning and, thus, may be harder to parent. In response to these findings, there have been a number of educational and behavioral interventions developed that target maternal psychological functioning, parenting and aspects of the parent-infant relationship.[12-16].

Infants in the neonatal intensive care unit (NICU) may have been born prematurely, have a medical condition that requires intensive care, or experienced a traumatic birth. Many families come into the NICU unprepared to care for an infant with unique medical needs and must learn to do so before taking their infant home. Medical experts and NICU parents agree that educating families is a key component to a parent's involvement in his or her infant's care while in the NICU and his or her subsequent ability to care for his or her infant post-discharge.[17]

Family centred care (FCC) is an integral part of high quality neonatal care in developed countries. More recently, family integrated care (FIC) is increasingly becoming a more popular model of care delivery in neonatal units. We strongly believe that FIC is the voice of the modern family in the neonatal unit and will provide significant benefit not only in terms of infant medical outcomes, but will also reduce stress, anxiety and depression in the family; improve their ability to cope and through structured competency based educational programmes will result in true partnership with parents.[18]

This study aim to educate parents regarding preterm baby care with Video teaching so that mothers can understand better and provide good care to their children at home after discharge.

Objectives

- To assess the existing level of competency on Parent Centered Developmental Care among the control and experimental group mothers of preterm neonates admitted in NICU.
- To evaluate the effectiveness of the video assisted teaching programme regarding Parent Centered Developmental Care on maternal competency in the experimental group and control group mothers of preterm neonates admitted in NICU.
- To associate the posttest level of competency with their selected demographic and obstetric variables in the experimental group.

Hypothesis:

- H1: There is a significant difference between the pre and post test level of competency of mothers in the experimental and control group.
- H2: There is a significant association between the post test level competency with their selected demographic and obstetric variables in the experimental group.

Methodology

Quantitative research approach and Quasi experimental design was adopted in this study. Simple random sampling Technique was adopted to select the sample for the study. Total 21 Samples - 10 for experimental group and 11 for control group were selected .
Criteria for the Selection of the Sample
Inclusion Criteria: -
Newborns:
✓ born after 33 weeks before 37 weeks.
✓ birth weight >1.5 kg to 2.5 kg.
✓ with non-invasive oxygen support.
- mothers who are willing to participate in the study.
- Present during the period of data collection.

Exclusion Criteria: -
Newborns:
✓ with life threatening congenital anomalies.
✓ are expected discharge less than 3 days.
Mothers with:
- viral respiratory infections, group A streptococcal infection.
- associated Complications like PIH, Bleeding, Sepsis, Seizure, Coma, etc

Development and Description of the Tool

The tool is prepared on the basis of objectives of the study and extended review of literature. Validity of the tool was established by consulting ten experts. The experts were requested to give their opinions and suggestions regarding the relevance of tool for further modification to improve the clarity and content of the terms.

Description of the tool- The tool consists of three section

Section A: Demographic and Obstetric data of mothers of Preterm neonates. The demographic data consists of totally 4 items which includes age, educational qualification, Occupation, Nationality, and the Obstetric variables includes 6 items which contains parity, type of delivery, Last child birth, previous H/O of low birth weight, previous H/o Preterm and H/o secondary diagnosis.
Section-B: Observation checklist to assess the competency level on Parent Centered Developmental Care
Observation checklist consists of totally 37 items as activities which includes hand hygiene(6 -Items), basic care (6 -Items), , kangaroo care (4 -Items), neonatal contact (4 -Items), , feeding and communication (4 -Items), , positioning measures (4 -Items), & NICU environment including quiet time protocol (9 -Items).
Each activity when mother performs correctly ,it will be marked as "done" score will be given '1'.
It has been categorized as competent and incompetent. The competency has considered based on the performance of mothers. Interpretation is higher the scorer are competent performer.

Interpretation for score

Level of competency	score	percentage
Competent	> 18	>50%
Incompetent	<18	<50%

Data Collection Procedure

After obtaining formal permission from concerned authorities to conduct study, the investigator was introduced herself to the mothers of preterm neonates. The purpose of the study was clearly explained to the mothers and assured that the data will be kept confidentially. Informed and verbal consent was obtained from the individual mothers prior to data collection. The mothers had the right to withdraw from the study at any time.
Demographic and Obstetric Variables were collected by using questionnaire. The pretest level of competency of mothers were observed by using observation checklist on PCDC On the 2nd day after Delivery. After the pretest for level of competency on the same day video assisted teaching program regarding parent centered developmental care given to the experimental group of mothers which includes Hand hygiene, Direct basic care, Kangaroo care, Neonatal contact, Feeding and communication, Posture and support position NICU environment (Low light and noise) were given to mothers for 30-45 minutes followed by reminder SMS was sent to mother's mobile.
The post-test for level of knowledge was carried out with the same tool on the 8th day after pretest for both experimental & control group mothers.

Result and Findings:

Regarding demographic variable of Mother and newborn shows that highest number 3(30%) & 3(27.3%) of Women were in the age group of 31-35years. Around 30% & 27.3% of mother of experimental and control group had education upto graduation and professional course, 50% and 45.4% mothers from experimental and control group were home makers respectively. [tab-1]
With regards to Obstetric Variable majority 60% and 45.4% mothers had Caesarean section, 40% and 27.3% mother had previous history of LBW baby, 50% and 45.4% mothers had history of preterm birth respectively. [tab-1]

Table 1: Frequency and Percentage Distribution of Demographic and Obstetrical Variables of Mothers in the Experimental and Control Group.
n = 21(10+11)

Demographic Variables	**Experimental Group**		**Control Group**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Age of the mother				
Below 21 years	1	10.0	1	9.1
21 – 25 years	3	30.0	5	45.5
26 – 30 years	3	30.0	2	18.2
31 – 35 years	3	30.0	3	27.3
Above 35 years	-	-		
Educational status	**Frequency**	**Percentage**	**Frequency**	**Percentage**
High school	3	30.0	3	27.3
Diploma	2	20.0	3	27.3
Graduate	3	30.0	2	18.1
Professional qualification	2	20.0	3	27.3
Occupation of mother	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Private sector	2	20.0	1	9.1
Government employee	2	20.0	4	36.4
Student	1	10.0	1	9.1
Home maker	5	50.0	6	45.4
Type of delivery	**Frequency**	**Percentage**	**Frequency**	**Percentage**
SVD	3	30.0	4	36.4
LSCS	6	60.0	5	45.4
Instrumental	1	10.0	2	18.2
Last child birth	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Less than a year	-	-	-	-
13 – 24 months	4	40.0	5	45.4
25 – 36 months	3	30.0	3	27.3
More than 3 years	-	-	-	-
Primi	3	30.0	3	27.3
Previous history of LBW	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Yes	4	40.0	3	27.3
No	3	30.0	5	45.4
Primi	3	30.0	3	27.3

Previous history of preterm	Frequency	Percentage	Frequency	Percentage
Yes	5	50.0	5	45.4
No	2	20.0	3	27.3
Primi	3	30.0	3	27.3
History of secondary diagnosis	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Yes	7	70.0	9	81.8
No	3	30.0	2	18.2

With regards to level of Competency of mothers result shows that during pretest mothers 8(80%) had incomepetent level of practice and 2(20 %) had competency to perform the care for new born in the experimental group ,10(90%) had incomepetent level of practice and 1(10 %)had competency to perform the care for new born in the control group .
Whereas in post test 7(70%) mothers had achieved the level of competency and still 3(30 %) mothers were considered as incompetent in the experimental group and 9(88%) mothers had not achieved the level of competency and 2(12 %) mothers were considered as competent in the control group.

The above Result highlights that there is improvement in the competency during post test among experimental group is due to the video assisted teaching. Hence it shows that teaching programme is effective.

The control group pretest mean level of Competency was 81.45 ± 11.09 and the post test mean is 82.45± 11.9.The calculated 't' value -2.003 was not significant at p=0.05 level.
In the experimental group the pretest mean level of knowledge was 82.30 ± 12.26 and post test mean level is 117.7 ±13.4 . The calculated paired 't' value of t=5.835 was found to be statistically significant at p=0.0001 level. [tab-2]

Tab-2 Pretest and post test level of competency on parent centered developmental care within experimental and control group
n=10+11

Knowledge	Pretest		Post Test		Paired 't' Value
	Mean	S.D	Mean	S.D	
Experimental Group	82.30	12.26	117.70	13.40	t=5.835 p=0.0001, S***
Control Group	81.45	11.09	82.45	11.90	t = -2.003 p = 0.055, N.S

*****p<0.001,**

Further the comparision posttest level of Competency between experiemental and control group reveals that there was statistically significant difference between the mean level of knowledge 117.7 ± 13.4 in the experimental group with control group posttest level of knowledge mean is 82.45 ± 11.6. So, the t value is 6.347 with the p value of 0.0001.[tab-3]

Tab-3-Comparison of post test level of competency among mothers of preterm neonates between the experimental and control group.
n = 21(10+11)

Variables	Test	Mean	S.D	Student Independent 't' test & p-value
Competency	Experimental	117.70	13.40	t=6.347
	Control	82.45	11.90	p=0.0001, S***

***p<0.001, S – Significant

Association of post test level of Competency of mothers of preterm neonates with their selected demographic and obstetrics variables in the experimental group shows that there was no association between demographic and obstetrics variables. Hence it shows that the teaching programme on PCDC can be applicable to all the mothers of preterm neonates invariably according to their age, education, qualification and occupation to improve the knowledge level and competency level.

Conclusion

This above result of the study clearly indicates that there was significant improvement in the level of Competency after teaching programme and thus the Video assisted teaching programme on PCDC was found effective in improving the level of Competency among mothers of Preterm neonates.

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