"A Study To Assess The Effect Of Structured Teaching Program On Risk Of Post-Natal Anxiety On Mothers Of Nicu Baby At Tertiary Care Hospital Regarding Kangaroo Mother Care"

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Abstract: Preterm birth can be stressful and traumatic for mothers and can have negative consequences for the natural establishment of the mother–infant relationship, affecting the mother's psychological state, bonding, and interactions with her baby. The NICU environment disrupts the mother's involvement in infant care and jeopardizes the attachment process between parents and baby. Mothers play an important role in infant care, and positive interactions between mother and preterm infant at an early age have been shown to be associated with better cognitive outcomes, and thus maternal involvement appears to have a very positive effect. The aim of the study was to assess the effectiveness of kangaroo mother care on reduction of anxiety level among the postnatal mothers whose baby admitted in NICU.

Methods : Pre-experimental one group pre-test post-test design was used to effect of structured teaching program on risk of post-natal anxiety on mothers of NICU baby at tertiary care hospital regarding kangaroo mother care. The sample size is 100 mothers of NICU babies at tertiary care hospital. The sampling technique used in this study was non probability - convenient sampling technique. The Hamilton's Anxiety Scale a standardized tool was used for data collection. The data collection was carried out in three phases and the data was analyzed by using the descriptive and inferential statistics.

Result : The study result depicted that in pre test 97% of mothers had severe anxiety score and from post-test 85% of them had moderate anxiety scores and 15% of the respondents had mild anxiety scores. the pre test the mean of the anxiety score obtained by the sample was 34.89 and in the post test it reduced to 18.38. t value was calculated to analyze the difference in pre-test and post-test anxiety score of mothers of NICU baby before and after giving structured teaching programme. Highly significant difference was found between pre and post-test anxiety scores **(t = 43.091)**.

Conclusion : The present study concluded that the Structured teaching programme was effective in reducing post-natal anxiety among mothers of NICU baby at tertiary care hospital.

Keywords: Structured teaching programme, post-natal anxiety, and mothers of NICU baby.

INTRODUCTION

Preterm birth can be stressful and traumatic for mothers and can have negative consequences for the natural establishment of the mother–infant relationship, affecting the mother's psychological state, bonding, and interactions with her baby. The NICU environment disrupts the mother's involvement in infant care and jeopardizes the attachment process between parents and baby. Mothers play an important role in infant care, and positive interactions between mother and preterm infant at an early age have been shown to be

associated with better cognitive outcomes, and thus maternal involvement appears to have a very positive effect. A growing body of research has shown that parents experience extreme distress, anxiety, and depression during their children's hospitalizations in these units, and symptoms of stress disorder persist after discharge. Disruption of their parental role is recognized as the most important stressor for parents of preterm infants.[1]

A neonatal unit (NNU) provides integrated services for delivering care to sick and preterm babies in need of specialist care. When a baby is admitted to a Neonatal unit the experience can be extremely distressing for the parents. Not only are parents likely to be fearful for their baby's health and survival, they also face separation from their baby, an unfamiliar and possibly overwhelming environment, and potential difficulties accessing information and communicating with staff. Such experiences may affect parental mental health, which in turn can impact transition to parenthood, the parent-infant relationship, and longer-term child development.[2]

Mother-infant separation due to admission of premature infants to the neonatal intensive care unit (NICU) is a stressor for postpartum women, affecting their physical and mental health. Studies have shown that 20% of mothers with premature infants in the NICU have varying degrees of depressive symptoms: 43% have moderate to severe anxiety and 15% have both anxiety and depressive symptoms reported that, in their study there were 80% of the mothers with premature infants had varying degrees of sleep problems after delivery, and approximately 66% of mothers with premature infants had a severely impaired sleep status. Therefore, it is an urgent task to find effective nursing measures to alleviate the adverse psychological stress and sleep status of mothers with premature infants after mother-infant separation. Kangaroo Mother Care (KMC), also known as skin-to-skin care, refers to placing the newborn upright on the mother's (or father's) chest for the desired warmth and security, named for the way marsupials such as kangaroos take care of their babies and toddlers. Many studies have confirmed that kangaroo mother care can not only stabilize the vital signs of premature infants, promote growth and development, but also can reduce their hospitalization cycle and mortality. The studies have found that the kangaroo mother care can play a certain role in regulating depression, irritability, and other negative emotions in postpartum mothers, it can be used not only to improve the maternal attachments in mothers with premature infants, but also reduce the maternal anxiety and stress status after premature birth. But there was a study found that a prolonged periods kangaroo mother care was an exhausting experience for mothers which can cause them lack of sleep and feel tired.[3]

Rao P, Raajashri R et.al (2019) The study was conducted to assess anxiety and depression among postnatal mothers of preterm babies and to evaluate whether Kangaroo mother care reduces their anxiety. This descriptive study was conducted in a tertiary care teaching hospital in south India. Anxiety and depression were assessed using Hospital Anxiety and Depression Scale in 2 groups of postnatal mothers (Pre-Kangaroo mother care and post Kangaroo mother care) with 50 participants each and compared. The result of this study was in the pre-Kangaroo mother care group, abnormal sub scale scores were noted in 27

(54%) and 21 (42%) for anxiety and depression respectively. The mean Hospital Anxiety and Depression Scale anxiety subscale score was 10.1 ($\pm$4.5) and mean depression subscale score was 9.15 ($\pm$4.3) in the pre-Kangaroo mother care group compared to 7.76 ($\pm$ 4.8) and 7.24 ($\pm$ 5.15) respectively in the post Kangaroo mother care group. The mean total Hospital Anxiety and Depression Scale score was significantly less in the post Kangaroo mother care group compared to pre-Kangaroo mother care group. The study was concluded that mothers of preterm neonates experience significant anxiety and depression during the immediate postnatal period and Kangaroo mother care can reduce their stress.[4]

Barsha Gadapani Pathak, a Bireshwar Sinha et.al. (2023) The study was conducted to investigate the effect of kangaroo mother care for low-birth-weight and preterm infants on parents' mental and physical health. The randomized and quasi- randomized trials on kangaroo mother care was done. The search identified 30 studies involving 7719 preterm or low-birthweight infants. There was high-certainty evidence that kangaroo mother care substantially reduced the risk of moderate-to-severe postpartum maternal depressive symptoms compared with no kangaroo mother care (relative risks RR: 0.76; 95% confidence interval, CI: 0.59 to 0.96). In addition, there was low-certainty evidence that kangaroo mother care reduced scores for maternal stress (SMD: -0.82; 95% CI: -1.32 to -0.32) and anxiety (SMD: -0.62; 95% CI: -1.01 to -0.23) and increased mother– infant attachment and bonding scores (SMD: 1.19; 95% CI: 0.27 to 2.10). the study was concluded that Kangaroo mother care for preterm and low-birth-weight infants was associated with less postpartum maternal depression, stress and anxiety and better mother–infant attachment and bonding. More research is required to evaluate effects on paternal health.[5]

Based on the recent literature, the prevalence of postpartum anxiety has widely ranged from 13% to 40%. The demographic risk factors for postnatal anxiety include being a young mother, having more education and being employed.[6] This may be related, in part, to concerns about the frailty and hemodynamic instability of preterm babies and concerns about the safety of transferring babies to their mothers in the presence of the necessary tubes and catheters, cultural and/or facility and furniture issues. Moreover, to date, there is no consensus on the duration of kangaroo mother care that is necessary to optimize beneficial effects and stress reduction. Therefore, and based on previous research with preterm infants, we decided to study whether kangaroo care would positively influence serum cortisol levels, an indicator of stress in preterm infants as well as in mothers due to skin-to-skin effects that promote infant stress regulation in neonatal intensive care. The study aimed to estimate the efficacy of prolonged kangaroo care in very preterm infants and its influence on neonatal and maternal stress and the results on physiological stress parameters. The present study is the first to evaluate the effects of KMC and its impact on blood biochemical stress (cortisol), physiological parameters and associated factors in preterm infants at the gestational age of 28–34 weeks and their mothers.[6]

The study was conducted on to investigate the effect of kangaroo mother care on the postnatal anxiety and sleep quality of mothers with premature infants admitted to the neonatal intensive care unit (NICU). A randomized controlled design was used to recruit participants. The study recruited 126 mothers of premature

infants in the NICU from January 2019 to January 2020. The participants were divided into the experimental and control groups according to the random number table method (63 mothers per group). The control group was managed with conventional premature infant treatment, nursing programme, and discharge education, whereas the experimental group was managed with a 4-week kangaroo mother care intervention. The postnatal anxiety state and sleep status of mothers with preterm infants in both the groups were evaluated using the Symptom Check List 90 (SCL-90) and Assens Insomnia Scale (AIS). After the intervention, the total SCL-90 score and factor scores such as coercion, interpersonal relationships, depression, anxiety, hostility, and additional factors, were lower in the experimental group than those in the control group ($P < 0.05$). The total AIS score and the items such as night waking, total sleep time, total sleep quality, daytime mood and daytime body function were lower in the experimental group than those in the control group ($P < 0.05$). The Kangaroo mother care approach can relieve adverse psychological stress and improve the sleep status of mothers of NICU premature infants after mother-infant separation. It can be promoted and used in mothers of premature infants in the NICU to enhance physical and mental health.[7]

PROBLEM STATEMENT

"A Study to assess the effect of structured teaching program on risk of post-natal anxiety on mothers of NICU baby at tertiary care hospital regarding kangaroo mother care."

OBJECTIVES OF THE STUDY:

The objectives of the study were -

1. To assess the pre-test score of anxiety level among the postnatal mothers whose baby admitted in NICU.

2. To assess the post test score of anxiety level among the postnatal mothers whose baby admitted in NICU.

3. To evaluate effectiveness of kangaroo mother care on reduction of anxiety level among the postnatal mothers whose baby admitted in NICU.

4. To find the association between pre-test anxiety score with selected demographic variables.

MATERIALS & METHODS

Researcher methodology defines what the activity of research is, how to proceed, how to measure progress and what constitutes success.

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

Research Approach: Quantitative Research Approach

Sample: Mothers of NICU baby at selected tertiary care hospital.

Sample Size: The sample size was 100 mothers of NICU baby who fulfil the required inclusion and exclusion criteria.

Sampling Technique: Non Probability Convenience sampling.

Data collection tool: Hamilton's Anxiety Scale a standardized tool was used for data collection.

Criteria for Sample selection:

    a. Inclusion criteria:

        1. who are in age group of 18- 35years

        2. Consent Form from those women who are willing to participate in the study.

        3. Mothers whose baby admitted in NICU.

        4. Mothers of babies whose baby is admitted in NICU but baby is not on ventilator.

        5. Mothers of babies admitted in NICU +who are able to understand English/Marathi

    b. Exclusion criteria:

        1. Mothers of babies admitted in NICU but their baby is on ventilator

        2. Mothers of babies admitted in NICU and mother herself admitted in medical NICU due to emergency.

        3. Mothers of babies admitted in NICU who don't want to participate in the study.

        4. Mothers who already have knowledge of kangaroo mother care.

The researcher approached the subjects, informed regarding the objectives of the study and obtained informed consent after assuring the subjects about the confidentiality of the data. Purpose and important of research study explain before collection of data. The tool used for the study is Hamilton's Anxiety Scale which is to assess the risk of post-natal anxiety on mothers of NICU baby at tertiary care hospital regarding kangaroo mother care. Descriptive and inferential statistics was used for data analysis. The collected data was organized and tabulated by using descriptive statistics, i.e. frequency, percentage, mean and SD. The inferential statistics i.e., paired t test was used to assess effectiveness of structured teaching program on risk of post-natal anxiety on mothers of NICU baby at tertiary care hospital regarding kangaroo mother care. The data was planned and presented in the form of tables and figures.

RESULT

The data collected is entered in the master sheet for tabulation and statistical processing. In order to find out relationship, the data was tabulated, analyzed and interpreted using descriptive and inferential statistics.

Table 1 : Description of Socio demographic data of Post Natal Mothers

n=100

Demographic variable	Frequency	Percentages
Age		
18 to 22 years	51	51
23 to 27 years	35	35
28 to 32 years	14	14

33 to 35 years	00	00
Religion		
Hindu	42	42
Christian	34	34
Muslim	24	24
Other	00	00
Type of family		
Joint	38	38
Nuclear	33	33
Extended	18	18
Separate	11	11
Locality		
Rural	38	38
Urban	16	16
Semi urban	28	28
Tribal	18	18
Mother's occupation		
House wife	44	44
Government employee	42	42
Self employed	14	14
Family income		
<Rs10000	37	37
Rs10001-Rs20000	9	9
Rs20001-Rs30000	28	28
>Rs30000	26	26
Mother's education		
Illiterate	31	31
Primary	36	36
Secondary	29	29
Graduate and above	04	04

The above table 1 shows that the highest percentage 51% of respondents were in the age group of 18 to 22 years. 42% of respondents were Hindu, followed by 34% of the respondents were Christian. 38% of respondents were from joint family followed by 33% of the respondents were from nuclear family. 38% of respondents were from rural area followed by 28% of the respondents were from semi-urban area. 61% of respondents were house wife followed by 29% of the respondents were self-employed. 37% of respondent's

income was <Rs 10000 followed by 28% of the respondent's income was Rs 10001 to Rs 20000. 36% of respondents had primary education, 31% of the respondents were illiterate and 29% of the respondents had secondary education.

Table 2 : Level of anxiety scores of mothers in pre and post test

n=100

Level of Knowledge Score	Pre test		Post test	
	f	%	f	%
Mild Anxiety (6-14)	00	00	15	15
Moderate Anxiety (15 – 28)	03	03	85	85
Severe Anxiety (29 – 52)	97	97	00	00

The above table 2 depicts that pre-test and post-test anxiety scores of mothers of NICU baby depicts that highest percentage in pretest 97% of them had severe anxiety score and from posttest 85% of them had moderate anxiety scores and 15% of the respondents had mild anxiety scores. Hence it can be interpreted that structured teaching programme was effective in reducing anxiety levels among mothers of NICU baby**.**

Table 3 : Significance of anxiety score regarding kangaroo mother care among mothers before and after structured teaching programme

n=100

Overall	Mean	Standard deviation	t-value	p-value
Pre Test	34.89	3.80	43.01	0.00 P<0.05 S
Post Test	18.38	0.49		

The above table 3 depicts that t value was calculated to analyze the difference in pre-test and post-test anxiety score of mothers of NICU baby before and after giving structured teaching programme. Highly significant difference was found between pre and post-test anxiety scores **(t = 43.091)**

Hence the stated null hypothesis is rejected as it is interpreted that there was significant difference between pre-test and post-test anxiety score.

Mean anxiety scores of pre and post-test anxiety scores of mothers of NICU baby

Pre-test	34.89
Post-test	18.38
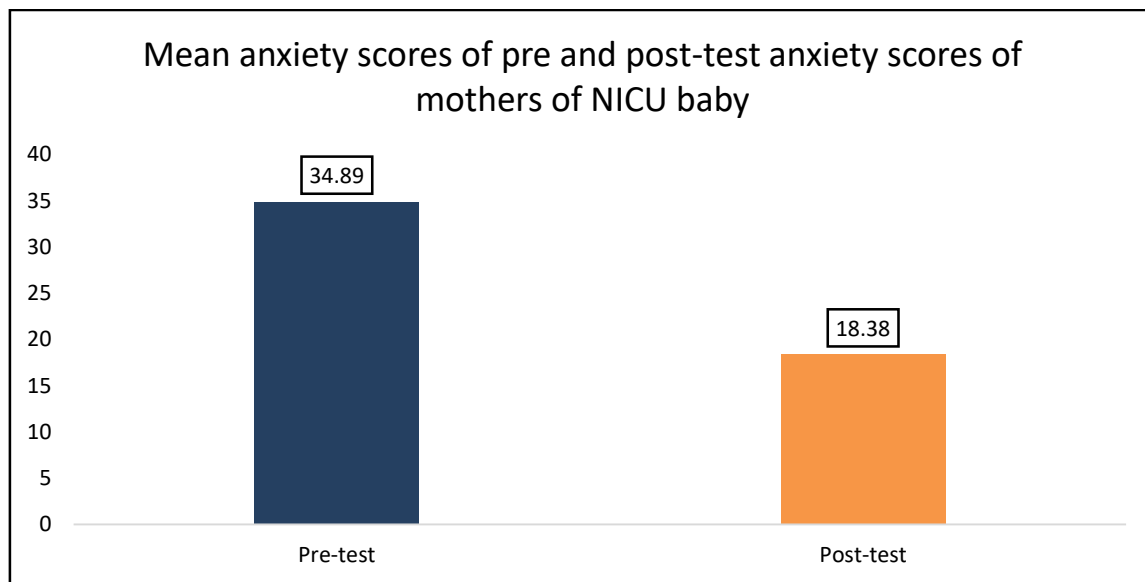
DISCUSSION

Description of Socio demographic data

Present study result reveals that (51%) of respondents were in the age group of 18 to 22 years followed by (35%) of the respondents were in the age group of 23-27 years and (14%) of the respondents were in the age group of 28 to 32 years. Similar study conducted by Regarding age, 60 % (18) of respondents are in the age group of below 25 years, 33 % (10) of respondents are in the age group of 26 – 30 years, 7 % (2) of respondents are in the age group of 30 – 40 years.[1]

Present study reveals that (42%) of respondents were Hindu, followed by (34%) of the respondents were Christian and (24%) of the respondents were Muslim. Similar study P. Ramya supports that 83% Hindu, 7% Muslim and 10% Christian.[1]

This study results reveals that (38%) of respondents were from joint family followed by 33% of the respondents were from nuclear family, 18% of the respondents were from extended family and 11% of the respondents were from separate family. Similar study depicts that (57%) joint family, 30% nuclear family and 10% extended family and 3% of the respondents were from separate family.[2]

Present study reveals that (38%) of respondents were from rural area followed by 28% of the respondents were from semi-urban area, 18% of the respondents were from tribal area and significant 16% of the respondents were from urban area. Similar study conducted by Achun Rongmei states that 45% mothers belong from urban area and 55% mothers living urban area.[3]

Present study results show that according to occupation 44% of respondents were house wife followed by 42% of the respondents were government employee and 14% of the respondents were self-employed. similar study conducted by Olubukola Olawuyi study reveals that civil Servant 22 (36.7), Trader 18 9 (30), House wife 12 (20), Student 8 (13.3).[2]

Present study results states that (37%) of respondent's income was <Rs 10000 followed by (28%) of the respondent's income was Rs 10001 to Rs 20000 and 26% of the respondent's income was >Rs 30,000. Similar study conducted (37%) of respondent's income was <Rs 5000 followed by (23%) of the

respondent's income was Rs 5000 to Rs 10000 and 13% of the respondent's income was >Rs 10,000 and above.[2]

Present study reveals that according to mother's education (36%) of respondents had primary education, 31% of the respondents were illiterate and 29% of the respondents had secondary education. Similar study conducted by Olubukola Olawuyi Graduate 25 (42), Secondary school certificate 5 (8), Primary school 18 (30), Not educated 12 (20).[2]

Description of to assess effectiveness of structured teaching program on risk of post- natal anxiety on mothers of NICU baby at tertiary care hospital regarding kangaroo mother care.

In present study results shows pretest (97%) of them had severe anxiety score and from post- test 85% of them had moderate anxiety scores and 15% of the respondents had mild anxiety scores.

Similar study was conducted by in pretest (82%) had severe anxiety, 18% of them had moderate anxiety and in post-test 16(8%) of them had severe anxiety, 20(10%) had moderate anxiety, 104(52%) of them mild anxiety.[4]

Anxiety score of mothers in mean pre-test score (34.89±3.80) and mean post-test score was (18.38±0.49). results show significant difference was found between pre and post-test anxiety scores (t = 43.091). Similar study supported that Post-test score mean 24.32(SD = 2.740) was less than the Pre-test mean 12.80(SD = 2.93). The obtained mean difference was 59 and "t" value t= 23.32 (P = 0.00) was significant.[5]

chi square test shows no significant association between pre-test anxiety score with selected demographic variables to age, religion, type of family, locality, mother's occupation, family income and mother's education.

Description of to find association between demographic variables and pre-test anxiety score:
There was no statistically significant association between post assessment of essential newborn care and the demographic variables such as age of the mother, education, religion, parity, type of delivery. There was statistically significant association between post assessment of essential level of knowledge on essential new born care and the demographic variables such as education and parity at p <0.01 level of significance.[4]

CONCLUSION

The study was carried out to assess the effectiveness of of structured teaching program on risk of post-natal anxiety on mothers of NICU baby at tertiary care hospital regarding kangaroo mother care. In pre test 97% of mothers had severe anxiety score and from post-test 85% of them had moderate anxiety scores and 15% of the respondents had mild anxiety scores. the pre test the mean of the anxiety score obtained by the sample was 34.89 and in the post test it reduced to 18.38. t value was calculated to analyze the difference in pre-test and post-test anxiety score of mothers of NICU baby before and after giving structured teaching programme. Structured teaching programme significantly decrease the anxiety on selected aspects of postnatal care among mother. So, in future nurses can prepare an effective structured teaching programme to reduce the maternal mortality rate

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