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"Effectiveness of nursing intervention on stress level of mothers whose child is admitted in NICU of selected hospital Udaipur city, Rajasthan".

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Abstract:
Background*: Stress is the body's reaction to any change that wants an adjustment. The body reacts to the changes i.e physical, mental, and emotional responses. Stress is a part of life. One can experience stress from environment, body, and thoughts. Even positive life changes such as promotion, mortgage, or birth of a child produce stress .Chronic stress can bear down the body's natural defences, leading to variety of physical symptoms, including the following, Dizziness, body aches and pains, Headaches, Indigestion or acid reflux symptoms, Increase or decrease of appetite. Researcher conducted a study to assess the effectiveness of nursing intervention on stress level of mothers whose child is admitted in NICU of selected hospital Udaipur city, Rajasthan.*
Materials and methods: *It included the Quasi experimental research approach, non-randomized control group design variables under study were nursing intervention as independent variable, stress level of mothers whose child is admitted in NICU as dependent variable. Research used conceptual framework based On general system model by Ludwig Von Bertalanffy in 1968. Selected Hospital of Udaipur city as research setting, total 80 samples, and non-probability convenient sampling techniques was used. The nursing intervention was used for this study and tool used for data collection were socio-demographic data and mothers stress scale. The data obtained were analyzed and interpreted in the light of objectives and hypothesis using both descriptive and inferential statistical in terms of frequency, percentage and chi-square.*
Results: *Result revealed that calculated t value (16.23) is found highly significant at the level of P=0.0001.it shows that there is a significant relationship between effect of nursing intervention & stress score of mothers whose child is admitted in NICU. Hence research hypothesis H_2 is proved and accepted. In experimental group In experimental Group, the socio-demographic variables such as Age in Years χ^2=19.32, educational status χ^2= 20.49, family income χ^2= 23.44, type of community χ^2= 17.74, gravida χ^2= 23.44 found significant (P=0.05) where as In control Group ,education qualification $\chi 2$ = 23.02,occupation $\chi 2$ = 23.02 , type of family $\chi 2$ = 16.03 ,family income $\chi 2$ = 19.52, type of community $\chi 2$ = 20.49 ,gravida $\chi 2$ = 16.74,found significant(P=0.05). Hence Research hypothesis H_3 is accepted.*
Conclusion: *The main focus of the study was to assess the effectiveness of nursing intervention on stress level of mothers whose child is admitted in NICU. The mean follow-up stress score among experimental group Mean=37.01 was lower than the mean follow-up stress score for the control group Mean=82.8 and the calculated 't' value is t= 16.23 greater than the table value. The finding shows that nursing intervention was effective on stress level of mothers whose child is admitted in NICU. Hence, research hypothesis H_2 accepted.*
Keywords*: Nursing intervention, NICU, effectiveness ,mothers.*

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I. Introduction:

A neonate is also called a new-born.[1]The neonatal period is the first four weeks of a child's life. It is a time when changes are taking very fast. Many critical things can occur in this time period, Feeding patterns are established, Bonding between parents and infant begin, The risk for infections that may become more serious are higher ,Many birth or congenital defects are first noted.[2]According to WHO, Worldwide 10% of pregnant women&13% of women who had given birth had a mental health problem, primarily stress. Many research study has shown that the problem is higher among developing countries i.e. 15.6% during pregnancy and 19.8% after child birth. Research also has shown that due to which it gives impact on mother's activity of daily living. As a result, the children's growth and development may be negatively affected as well.[3]

Most babies admitted to NICU are preterm born before 37 weeks of pregnancy, have low birth weight (LBW) less than 5.5 pounds, or have health condition that needs care. In U.S., half a million babies were born

preterm. Many of these babies have low birth weights (LBW). Twins, triplets, and multiples often are admitted in the NICU. This are because they tend to be born earlier and smaller than single birth babies. Babies with health conditions such breathing difficulty, heart defect, infections, or birth defects are also cared in the NICU. [4]

II. Material and Methods

Quasi-experimental approach, a sub type of quantitative approach was used for the present study. This approach would help the researcher to evaluate the effectiveness of nursing intervention on stress level of mothers whose child is admitted in NICU of selected hospital Udaipur city ,Rajasthan.

Research design - Quasi experimental, non-randomized control group design.

Research Settings: The study was conducted in the neonatal intensive care unit (NICU)in Geetanjali, Bhandari ,Sunrise and jivanta Childrens hospital Udaipur Rajasthan.

Study duration: February 2020 to March 2020

Sample Size: 80mothers.

Population: The target Accessible population comprised of all mothers whose child is admitted in NICU. In this present study the sample consisted of 80 mothers,40 each in the experimental group and control group, mothers whose child is admitted in NICU.

Sampling Technique: Non-Probability convenient sampling technique.

Inclusion criteria:

1. Mother's whose children's is admitted in NICU during the time of data collection.
2. Mother's who could understand and speak Hindi & English.
3. Children belong to the age group of birth-28days.
4. Mother's who stayed in NICU for more than 14 days.

Exclusion criteria:

1. Mother's who were admitted in ICU.
2. Mother's who were not co-operative in the study.
3. Mother's who were not available at the time of data collection.
4. Mother's who were suffering with severe mental illness, such as personality disorder or co morbid psychiatric condition.

Procedure Methodology: The researcher adopted a quantitative experimental research approach with quasi experimental, non-randomized control group design. Eighty participants were selected, by using convenient sampling technique. Pre-test was done with mother's stress scale. The average time taken by each participants was 20minutes & scoring time was 3minutes. Based on pre-test score the nursing intervention was administered by the researcher to the participants. The post-test was conducted after 7days of Pre-test. Follow-up was conducted after 7days of Post-test. The collected data were analyzed based on the above mentioned objective using the descriptive and inferential statistics.

Statistical analysis: The obtained data were analyzed in terms of objectives of the study using descriptive and inferential statistics. The plan for data analysis was as follows Organization of data in master sheet. Obtained data were analyzed in terms of frequencies and percentages. Description Statistics: Description of demographic characteristics mean, median, SD and mean percentage is used to describe the area wise pre-test, post-test & follow-up in experimental and control group of the participant regarding stress. Inferential Statistics: 't' test is used to find out the effectiveness of nursing intervention on the mothers whose child is admitted in NICU. Chi-square is used to find the Association between pre test stress score of experimental group & control group participant with socio-demographic variables.

III. Results

Section A: Level of mother's stress among experimental & control group.

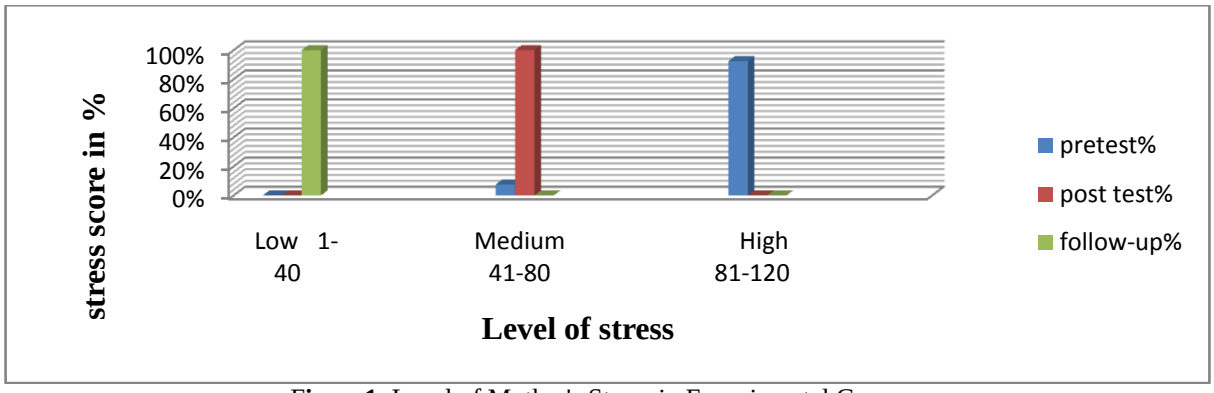
Section B: Effectiveness of nursing intervention on level of stress among mother in experimental & control group.

Section-A: Level of Mother's Stress Among Experimental & Control Group

Table 1: Level of Mother's Stress in Experimental Group.

N=40

Levels of stress	Stress Score	Pre-test	%	Post-test	%	Follow-up	%
Low	1-40	0	0%	0	0%	40	100%
Medium	41-80	3	7.5%	40	100%	0	0%
High	81-120	37	92.5%	0	0%	0	0%



F**igure1**: Level of Mother's Stress in Experimental Group.

Table 1 and Figure 1:projected that level of mothers stress in experimental group in this pre-test stress score i.e 92.5% had high stress & 100% participant in post-test had medium level of stress & 100% participant in follow-up had low stress ,respectively. There is a significant difference in stress level of mothers whose child is admitted in NICU. Hence research hypothesis H_1 is accepted.

Table 2: Level of Mothers Stress in Control Group

N=40

Levels of stress	Stress Score	Pre-test	%	Post-test	%	Follow-up	%
Low	1-40	0	0%	0	0%	0	0%
Medium	41-80	4	10%	5	12.5%	8	20%
High	81-120	36	90%	35	87.5%	32	80%

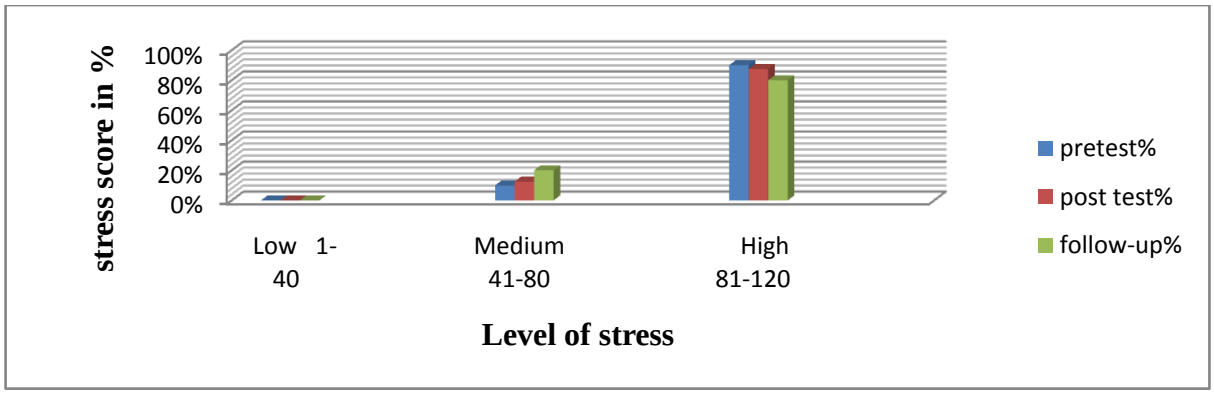


Figure 2: Level of Mothers stress in control group

Table 2 & Figure 2: projected that level of mothers stress in control group in this pre-test stress score i.e 90%participant had high stress & 87.5% participant in post-test had medium level of stress & 80% participant in follow-up had low stress respectively.There is a significant difference in stress level of mothers whose child is admitted in NICU. Hence research hypothesis H_1 is accepted.

Section B: Effectiveness of nursing intervention on level of stress among mother in experimental & control group.

Table:3 Comparison of stress scores in experimental group.

N=40

STRESS	Mean	Mean Percentage (%)	SD	Mean difference	Df	't' test	P Value	Inference
Pre-test	87.55	72.95%	3.98					
Post-test	49.17	40.97%	3.42	38.38	39.00	23.22	0.0002	**S***
Post-Test	49.17	40.97%	3.42					
Follow-up	37.1	30.91%	2.07	12.07	39.00	8.91	0.01	**S***
Pre-Test	87.55	72.95%	3.98					
Follow-up	37.1	30.91%	2.07	50.45	39.00	16.23	0.002	**S***

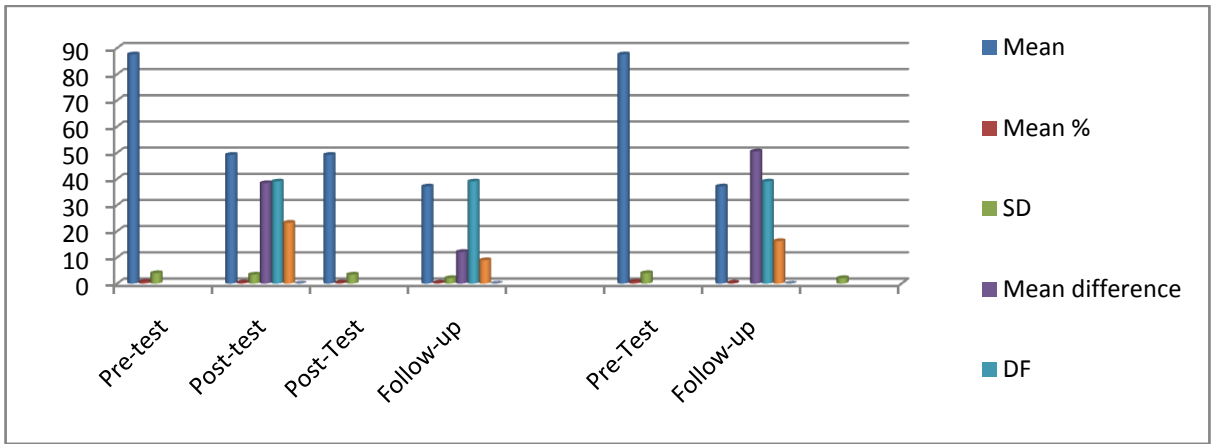


Figure 3: Comparison of stress scores in experimental group.

Table 3 and Figure 3: projected that in experimental group, pre test v/s post test wise analysis shows that in pre-test the mean obtained by the respondents was 87.55 with mean percentage of 72.95%, SD of 3.98 & in post test the mean obtained by the respondents was 49.17 with the mean percentage of 40.97%,SD of 3.42 ,the mean difference is 38.38 ,df 39 ,the obtained 't' test is 23.22, P= 0.0002,(significant). Post test v/s Follow-up wise analysis shows that in post-test the mean obtained by the respondents was 49.17 with mean percentage of 40.97%,SD of 3.42 & in follow-up the mean obtained by the respondents was 37.1 with the mean percentage of 30.91%,SD of 2.07 ,the mean difference is 12.07 ,df 39 ,the obtained 't' test is 8.91, P= 0.01,(significant). Pre test v/s Follow-up wise analysis shows that in pre-test the mean obtained by the respondents was 87.55 with mean percentage of 72.95%,SD of 3.98 & in follow-up the mean obtained by the respondents was 37.1 with the mean percentage of 30.91%,SD of 2.07 ,the mean difference is 50.45 ,df 39 ,the obtained 't' test is 16.23, P=0.002,(significant).

There is a significant difference between the pre-test, post-test & Follow-up stress score of mothers whose child is admitted in NICU. A hypothesis was tested at 0.05& 0.01 levels. The calculated 't' value 16.23 is significantly higher than the table value 1.96 at 0.05 level of significance.There is a significant relationship between effect of nursing intervention & stress score of mothers whose child is admitted in NICU, hence the H_2 hypothesis was proved and accepted.

Table 4: Comparison of stress scores in control group. N=40

STRESS	Mean	Mean Percentage (%)	SD	Mean difference	df	't' test	P Value	Inference
Pre-Test	86.77	72.30%	4.16					
Post-test	85.67	71.39%	4.25	1.1	39.00	1.26	0.74	**NS**
Post-test	85.67	71.39%	4.25					
Follow-Up	82.8	69.00%	4.15	2.87	39.00	1.59	0.68	**NS**
Pre-test	86.77	72.30%	4.16					
Follow-Up	82.8	69.00%	4.15	3.97	39.00	1.98	0.041	**S**

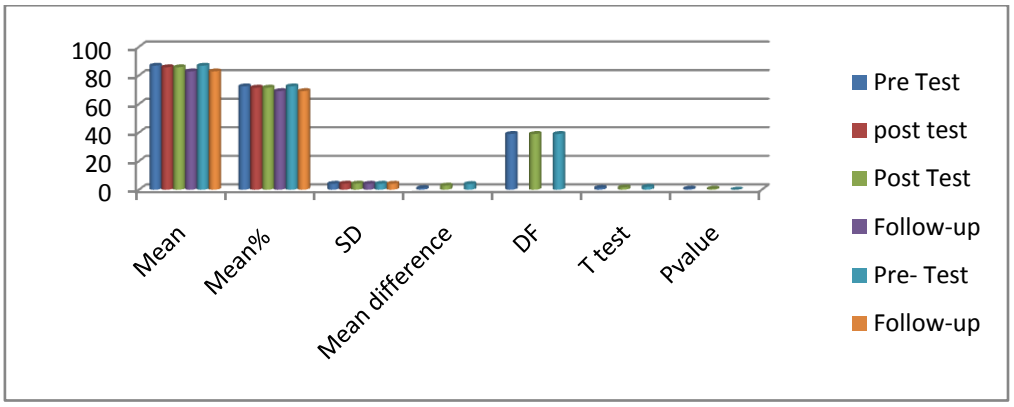


Figure 4: Comparison of stress scores in control group.

Table 4 & Figure4: projected that in control group, pre-test v/s post-test wise analysis shows that in pre-test the mean obtained by the respondents was 86.77 with mean percentage of 72.30%,SD of 4.16 & in post-test the mean obtained by the respondents was 85.67 with the mean percentage of 71.39%,SD of 4.25 ,the mean difference is 1.1 ,df 39 ,the obtained 't' test is 1.26, P=0.74 & it is non-significant. Post-test v/s Follow-up wise analysis shows that in post-test the mean obtained by the respondents was 85.67 with mean percentage of 71.39%,SD of 4.25 & in Follow-up the mean obtained by the respondents was 82.8 with the mean percentage of 69.00%,SD of 4.15 ,the mean difference is 2.87,df 39 ,the obtained 't' test is 1.59, P= 0.68 & it is non-significant. Pre-test v/s Follow-up wise analysis shows that in pre-test the mean obtained by the respondents was 86.77 with mean percentage of 72.30%,SD of 4.16 & in Follow-up the mean obtained by the respondents was 82.8 with the mean percentage of 69.00%,SD of 4.15 ,the mean difference is 3.97,df 39 ,the obtained t test is 1.98, P= 0.041,(significant).

There is a significant difference between the pre-test, post-test & Follow-up stress score of mothers whose child is admitted in NICU. A hypothesis was tested at 0.05& 0.01 levels. The calculated 't' value 1.98 is significantly higher than the table value 1.96 at 0.05 level of significance.There is a significant relationship between effect of nursing intervention & stress score of mothers whose child is admitted in NICU, hence the H_2 hypothesis was proved and accepted.

IV. Discussion

The present study has been undertaken to "A study to assess the **e**ffectiveness of nursing intervention on stress level of mothers whose child is admitted in NICU of selected hospital at Udaipur city, Rajasthan**.**The First Objective was to assess the stress level of mothers whose child are admitted in NICU. The present study revealed level of mothers stress in experimental group in this pre-test stress score i.e 92.5% had high stress & 100% participant in post-test had medium level of stress & 100% participant in follow-up had low stress. level of mothers stress in control group in this pre-test stress score i.e 90%participant had high stress & 87.5% participant in post-test had medium level of stress & 80% participant in follow-up had low stress respectively.

A similar was conducted by Jagdish R. Varmal (2019) in Gujarat on Hospitalization of a new-born child is stressful for parents. Researcher used Parental Stressor Scale to assess stress among parents whose child is admitted in NICU .Result showed that, mothers who had higher levels of education and those with pregnancy complications were more stressed. The mean ±SD, maternal stress level on PSS: NICU was 1.62± 0.47. The mean ±SD scores for sub-scales sights and sounds, baby look and behaviour, parental role alteration, and staff behaviours were 1.98 ±0.83, 1.45 ±0.45, 1.76 ±0.54, and 1.03 ±0.12 respectively. "Tubes and equipment on or near baby" 2.50 followed by "presence of monitors and equipment" 2.46 were stressors with the maximum score on the PSS: NICU.[5]

The Second Objective is to evaluate the effectiveness of nursing intervention on stress level of mothers whose child is admitted in NICU. The mean score of post-test stress score 49.17 & follow up 37.1 was less than the mean pre-test stress score 87.55 , the enhancement in the stress of participant was 14.02 , suggesting that the nursing intervention was effective in decreasing the stress of the mothers whose child is admitted in NICU. The data further represent that the t=1.96 and is significantly higher than the table value of 0.002 at P=0.05 (significant).

A similar pre –experimental study was conducted by Deepika (2018) in New Delhi, assess the effect of nursing intervention on the stress level of parents of neonates admitted in NICU selected hospital .study was conducted among 30 parents of neonates admitted in NICU. parents were assessed for stress level by using PSS:NICU. The mean pre-nursing intervention parental stress score of 72.9±12.98 which was more than the

mean post nursing intervention parental stress score of 58.7±12.37 with mean difference of 14.2±5.61 which was found to be statistically significant as evident from t=29 was 2.05 P=0.001(significant).[6]

The Third Objective is to find out the association with pre-test stress score and selected demographical variables of mothers. There was a significant association between stress of mothers and demographic variables such occupation χ^2=13.02, type of family χ^2=10.36,marital status χ^2=0,type of delivery χ^2=0, gender of the baby χ^2=2.67, days admitted in NICU χ^2=8.36, were not found to be significant associated with pre-test stress score at 0.05 level and the rest of the socio-demographic variables such as Age in Years χ^2=19.32, educational status χ^2= 20.49, family income χ^2= 23.44, type of community χ^2= 17.74, gravida χ^2= 23.44,were found to be significantly associated with pre-test stress score at 0.05 level.

V. Conclusion

The study was conducted on "Effectiveness of nursing intervention on stress level of mothers whose child is admitted in NICU of selected hospital at Udaipur city, Rajasthan". In the present study 80 mother's whose child is admitted in NICU were selected through convenient sampling technique. Researcher used Qausi-Experimental, non-randomized research design to assess the stress level of mothers whose child is admitted in NICU. Data were collected through mothers stress scale and data were analysed through suitable statistical method.

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