



**PRE-EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF
PROGRESSIVE MUSCLE RELAXATION THERAPY ON STRESS AMONG POSTNATAL
MOTHERS OF PRETERM BABY IN TRIPURA MEDICAL COLLEGE & DR. BRAM
TEACHING HOSPITAL OF AGARTALA, WEST TRIPURA**

Nursing

Ms. Paunami Dey* Nursing tutor of ICFAI Nursing School, ICFAI University Tripura. *Corresponding Author

Mrs. Chandrama Sarkar Assistant Professor, Obstetrics and Gynaecological Nursing, Tripura College of Nursing.

Miss. Sutapa Paul Professor of Obstetrics and Gynaecological Nursing, Tripura College of Nursing.

ABSTRACT

A pre-experimental study to evaluate the effectiveness of progressive muscle relaxation therapy on stress. **The study was aimed** to identify and reduce the stress by progressive muscle relaxation therapy among postnatal mothers of preterm baby. **Methodology** Quantitative research approach with Pre-experimental one group pre-test post-test design was adopted by applying purposive sampling technique among 30 samples of postnatal mothers of preterm baby in Tripura Medical College & Dr. BRAM Teaching hospital of Agartala, West Tripura. Stress level was assessed by Modified Perceived Stress scale. **Results** In pre-test out of 30 postnatal mothers of preterm baby, 23.33% had mild stress, 63.33% had moderate stress, 13.33% had high perceived stress. In post-test 70% had mild stress, 30% had moderate stress after administering of progressive muscle relaxation therapy. The (mean $\pm$ SD) pre-test stress score was (53.3 $\pm$ 12.13) and (mean $\pm$ SD) Post-test stress score was (40.1 $\pm$ 9.08). The computed t-value was 9.65 which was greater than tabulated value (2.05, df-29) at 0.05 level of significance. Hence it was showed that progressive muscle relaxation therapy was significant and it was effective in reducing stress among postnatal mothers of pre-term baby. The study also revealed that there was no significant association found between pre-test levels of stress scores with their selected socio demographic variables. **Conclusion** The level of stress among postnatal mothers of preterm baby were reduced after administering progressive muscle relaxation therapy. So, therefore Progressive Muscle Relaxation Therapy was effective on stress among postnatal mothers of preterm baby.

KEYWORDS

Stress, Postnatal mothers of preterm baby, Progressive Muscle Relaxation Therapy

INTRODUCTION

The birth of a child is a life-changing event for any family. It is a time of joy, but it can also be a period of high stress and anxiety, especially for new mothers. The birth of a preterm baby further adds to the stress and anxiety, as the baby requires special care and attention. Postnatal mothers of preterm babies are often overwhelmed with the responsibilities of caring for their fragile infants, while also dealing with the physical and emotional challenges of childbirth. This can lead to high levels of stress, which can have negative effects on the mother's well-being and the development of the baby.

In order to address this issue, many healthcare facilities have started incorporating relaxation therapy as part of postnatal care for mothers of preterm babies. One such therapy is Progressive Muscle Relaxation (PMR) which has been shown to be effective in reducing stress and promoting relaxation. The purpose of this paper is to evaluate the effectiveness of PMR therapy on stress among postnatal mothers of preterm babies in Tripura Medical College & Dr. BRAM Teaching Hospital of Agartala, West Tripura.

It is a major public health issue globally, with an estimated 15 million preterm births occurring every year (World Health Organization, 2018). In India, the prevalence of preterm birth is 10.6%, which is higher than the global average (World Health Organization, 2018). In Tripura, a state in Northeast India, the prevalence of preterm birth is 7.9% (Indian Council of Medical Research, 2018).

OBJECTIVES OF THE STUDY:

1. To assess the pre-existing level of stress among postnatal mothers of preterm baby in Tripura Medical College & Dr. BRAM Teaching hospital of Agartala.
2. To evaluate the effectiveness of progressive muscle relaxation therapy on stress among postnatal mothers of preterm baby in Tripura Medical College & Dr. BRAM Teaching hospital of Agartala.
3. To find out the association between the pre-existing level of stress among postnatal mothers of preterm baby with their selected socio demographic variables in Tripura Medical College & Dr. BRAM Teaching hospital of Agartala.

HYPOTHESIS:

H1 – The mean post-test score on stress among postnatal mothers of preterm baby is significantly lower than their mean pretest score.

H2 - There is a significant association between the pre-test level of score on stress with their selected socio demographic variables among

postnatal mothers of preterm baby.

RESEARCH METHODOLOGY:**Research Design:**

The research design for this study is a pre-experimental one-group pre-test post-test design.

Variables Under Study:

- **Dependent Variable:** Stress among postnatal mothers.
- **Independent Variable:** Progressive muscle relaxation therapy.
- **Demographic Variables:** Age, religion, residing area, educational status, occupation, monthly income of the family, type of family, number of ANC visits, gestational age, pregnancy complications etc.

Research Setting:

The study was conducted in Tripura Medical College & Dr. BRAM Teaching Hospital of Agartala. The pilot study was conducted in Indira Gandhi Memorial Hospital, Agartala West Tripura.

Population:

The target population included postnatal mothers of preterm babies in Tripura Medical College & Dr. BRAM Teaching Hospital of Agartala.

Sample:

A purposive sampling technique was adopted, and the sample size consisted of 30 postnatal mothers of preterm babies.

Selection And Development Of Tool:

Tool I: Socio-demographic data (18 items)

Tool II: Modified Perceived Stress Scale (22 items)

Validity Of Tool:

Content validity was established through expert opinions, and the tools were modified accordingly.

Reliability Of Tool:

The reliability of the Modified Perceived Stress Scale was tested using the test-retest method, with a resulting coefficient of 0.96.

Ethical Consideration:

Ethical considerations included obtaining permissions from relevant committees, informed consent from participants, and maintaining confidentiality.

Pilot Study:

A pilot study was conducted with 10 postnatal mothers of preterm babies to assess feasibility, effectiveness, and to identify potential problems.

Data Collection Procedure:

The main study involved pre-tests, Progressive Muscle Relaxation Therapy for 7 days, post-tests, and data collection using socio-demographic proforma and Modified Perceived Stress Scale.

Data Analysis:

Descriptive statistics (frequency, percentage, mean, median, standard deviation) were used to analyze demographic variables and stress levels. Inferential statistics (paired 't' test, ANOVA) were employed to find significant differences and associations.

RESULTS:**The Demographics Key Findings Among Postnatal Mothers Of Preterm Babies:**

Age: Most participants (70%) were between 27-30 years old, with a significant proportion (26.67%) falling within the 23-26 years category. **Religion:** Hinduism was the dominant religion among participants (70%), followed by Islamism (20%). **Residing Area:** The majority of mothers resided in urban areas (63.33%). **Type of Family:** Nuclear families constituted the largest group (47%), while joint and extended families were less prevalent. **Education Qualification:** A substantial number of mothers were graduates (33%) or had completed higher secondary education (40%). **Occupation:** Homemakers comprised the highest percentage (70%), with employees being the second-largest group (26.67%). **Monthly Income:** The majority of participants had a monthly income of 15,001-20,000 (43.33%). **Week of Gestation:** A significant portion of pregnancies fell within the 27-30 weeks category (40%). **Number of ANC Visits:** Most mothers completed 8-10 ANC visits (66.67%). **Birth Weight of Newborn Baby:** A significant proportion had low birth weight babies (43.33%). **Mode of Delivery:** Normal vaginal delivery was more common (70%). **Complications During Pregnancy:** The most common complications were gestational diabetes mellitus (36.66%) and pre-eclampsia (16.67%). **Vital Signs (at the time of data collection):** Most mothers fell within normal ranges for body temperature, blood pressure, pulse rate, respiration rate, and duration of hospitalization. **Previous Knowledge about PMRT:** None of the participants had prior knowledge about Progressive Muscle Relaxation Therapy (PMRT).

Table No 1: Frequency & Percentage Distribution Of Pre-test Post-test Level Of Stress Among Postnatal Mothers Of Preterm Baby: N=30

Level of Stress	Pre-test		Post-test	
	F	%	F	%
No stress (1-22)	-	-	-	-
Mild stress (23-44)	7	23.33%	21	70%
Moderate stress (45-66)	19	63.33%	9	30%
High perceived stress (67-88)	4	13.33%	-	-

Table no: 1 depicts that, in pre-test out of 30 postnatal mothers of preterm baby, (7) 23.33% had mild stress, (19) 63.33% had moderate stress, (4) 13.33% had high perceived stress. In post-test out of 30 postnatal mothers of preterm baby, (21) 70% had mild stress, (9) 30% had moderate stress. Hence it was showing that, progressive muscle relaxation therapy was effective in reducing stress among postnatal mothers of pre-term baby.

Table No 2: Mean, Median, SD, T-vale On Effectiveness Of Progressive Muscle Relaxation Therapy On Stress Among Postnatal Mothers Of Preterm Baby: N=30

Groups	Mean	Median	SD	Mean diff.	Paired t-value
Pre-test	53.3	54	12.13	13.2	9.65*
Post-test	40.1	38.21	9.08		

Tabulated t-value: 2.05, Df: 29

Table no: 2 revealed that out of 30 postnatal mothers of preterm baby pre-test mean stress score was 53.3, median was 54 and standard deviation was 12.13. Post-test mean stress score was 40.1, median was 38.21, standard deviation was 9.08. The mean difference was 13.2. The computed t-value was 9.65 which was greater than tabulated t-value (2.05, df-29) at 0.05 level of significance. So, the null hypothesis was

rejected and research hypothesis was accepted. Hence it was showing that, progressive muscle relaxation therapy was effective in reducing stress among postnatal mothers of pre-term baby.

Regarding Findings related to association between pre-test levels of stress among postnatal mothers of preterm baby with their selected socio-demographic variables. The ANOVA test was used.

The findings depicts that, computed F value lesser than tabulated F-value at 0.05 level of significance. Hence, the research hypothesis was rejected and null hypothesis was accepted. There was no significant association found between pre-test levels of stress scores with their selected socio demographic variables such as age, religion, type of family, educational status, occupation, monthly income, pulse rate, respiratory rate at the time of data collection and duration of hospitalization on the day of data collection.

CONCLUSION:

The findings of the present study showed the mean post-test stress score 40.1 was lower than the mean pre-test stress score 53.3. It shows that in pre-test most of the postnatal mothers of preterm baby 23.33% had mild stress, 63.33% had moderate stress, 13.33% had perceived severe stress. In post-test 70% had mild stress and 30% had moderate stress. The comparison of pre-test and post-test stress score (paired t-value= 9.65, tabulated value 2.05 degree of freedom 29 at 0.05 level of significance) showed that progressive muscle relaxation therapy was significant and it was effective in reducing stress among postnatal mothers of pre-term baby.

REFERENCES:

- Trumello Carmen, Marika Cofini, Cimino Silvia. Mothers' Depression, Anxiety, and Mental Representations After Preterm Birth: A Study During the Infant's Hospitalization in a Neonatal Intensive Care Unit. November 2018. *Frontiers in Public Health* 6.DOI:10.3389/fpubh.2018.00359
- <https://www.healthline.com/health/pregnancy/premature-infant>
- https://www.who.int/maternal_child_adolescent/data/causes-death-children/en/
- Hughes M, Mc Collum J, Sheffel D, Sanchez G: How parents cope with the experience of neonatal intensive care. *Child Health Care* 1994, 23(1):1-14.
- Trumello Caemen, Candelori Carla, Keren Miri and Romanelli Roberta. The experience of premature birth for mothers: the application of the Clinical Interview for Parents of High-Risk Infants (CLIP) to an Italian sample. *Frontiers in Psychology*.29 september, 2015.doi: <https://doi.org/10.3389/fpsyg.2015.01444>
- Ganguly Ria, Patnaik Lipilekha and Sahu Trilochan. Assessment of stress among parents of neonates admitted in the neonatal intensive care unit of a tertiary care hospital in Eastern India. *Journal of Education and Health Promotion*.2020; 9:288. doi: 10.4103/jehp.jehp.169_20.032
- Neeru, D. C. K., Satapathy, S., & Dey, A. B. (2015). Impact of Jacobson Progressive Muscle Relaxation (JPMR) and Deep Breathing Exercises on Anxiety, Psychological Distress and Quality of Sleep of Hospitalized Older Adults. *Journal of Psychosocial Research*, 10(2), 211-223.
- Goodman S, Rouse M, Connell A, Broth M, Hall C, Heyward D: Maternal stress and psychopathology: a meta-analytic review. *Clin Child Fam Psychol Rev* 2011, 14(1):1-27.
- Tanpradit K, Kaewkiattikun K. The Effect of Perceived Stress During Pregnancy on Preterm Birth. *International Journal of Women's Health*. 15 April 2020, 2020:12: <https://doi.org/10.2147/IJWH.S239138>: P-287-293
- Saeideh Nasiri Saeideh, Akbari Hossain, Tagharrobi Laila, Akram Sadat Tabatabaee Sadat Akram. The effect of progressive muscle relaxation and guided imagery on stress, anxiety, and depression of pregnant women referred to health centers. *J Edu Health Promot [serial online]*.2018 [cited 2021 Jul 20];7:41. Available <https://www.jehp.net/text.asp?2018/7/1/41/226476>