



## **MOTHERS KNOWLEDGE ON TACTILE STIMULATION FOR PRETERM NEONATES**

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### **Abstract:**

*Infants in Neonatal Intensive Care Units (NICU) are subjected both to a highly stressful environment - continuous, high-intensity noise and bright light and to a lack of the tactile stimulation that they would otherwise experience in the womb or in general mothering care. A critical challenge for care providers is improving the outcomes for premature infants. Neonatal massage may help these neonates to reduce the stress levels and has been suggested to improve the growth and development of preterm and low birth weight infants. Tactile stimulation has the advantages of being noninvasive, inexpensive, and safe. The aim of the present study is to assess the knowledge of mothers on tactile stimulation for preterm neonates.*

### **Methods:**

*The study was conducted among the mothers of preterm neonates. The samples were selected by non probability purposive sample. After obtaining informed consent from the mothers of preterm neonates the data was collected from 40 mothers by using a self administered structured questionnaire.*

### **Result:**

*The results revealed that out of forty mothers only nine mothers had adequate knowledge on tactile stimulation, thirteen had moderate knowledge and eighteen of them had inadequate knowledge.*

### **Conclusion:**

*The study result shows that majority of the mothers are having inadequate knowledge on tactile stimulation. The mothers must be given adequate information by the health team members on tactile stimulation to improve their knowledge.*

**Key Words:** Knowledge, Mothers, Tactile Stimulation & Preterm Neonates

### **Introduction:**

Preterm infants (PI) are exposed daily to many stressors in the neonatal intensive care unit (NICU) inherent to the critical care they need to survive. The manner and intensity of exposure vary according to the individual PI condition and response. It has already been shown that such exposure leads to structural and functional changes in specific areas of the brain, affecting its development, language, and social-emotional and adaptive behavior.<sup>1-2</sup> Tactile stimulation has the advantages of being noninvasive, inexpensive, and safe.<sup>3</sup>

During a premature infant's admission to the Neonatal Intensive Care Unit, the infant can undergo an average of 60 procedures, many of them painful and invasive. Some evidence suggests that repeated painful procedures cause preemies to experience more intense pain than the same procedure experienced for the first time. Researchers suspect that unless premature babies are given medication or other forms of support, repeated painful interventions in the NICU may have long-term adverse behavioral and physiological effects.<sup>4-6</sup>

Touch refers to contact between objects. The touch in newborns can be active or passive. Passive touch can be delivered as a care touch or massage. Care touch refers to the touch associated with feeding, changing diapers, handling, holding, kangaroo care (KMC), or examination of newborn. A methodological touch intended to stimulate the

baby is referred to as massage. The practice of neonatal massage has been flourishing for decades in the Indian subcontinent. There has been a recent surge of interest in the Western world about this traditional art. Touch Research Institute in Miami was established in 1990 to look into various aspects related to this subject. Neonatal intensive care unit is considered a stressful environment with loud noise of equipment, alarms and bright lights. Neonatal massage may help these neonates reduce the stress levels and has been suggested to improve the growth and development of preterm and low birth weight infants.<sup>7,8</sup>

Infants in Neonatal Intensive Care Units (NICU) are subjected both to a highly stressful environment - continuous, high-intensity noise and bright light and to a lack of the tactile stimulation that they would otherwise experience in the womb or in general mothering care. Several studies highlighted the benefits of infant massage performed by mothers or medical staff. Indeed, premature infants gained weight with an increase of 21-48% compared to control groups. Preterm babies randomly assigned to a control or massage therapy group – also reached a significant increase in body temperature when receiving the massage. Furthermore, from a neurological point of view, the effects of infant massage on the baby results positively influencing the Heart Rate Variability.<sup>9-13</sup>

A critical challenge for care providers is improving the outcomes for premature infants. The issues of how to control various kinds of stimulation, provide appropriate sensory stimulation, and maintain the quality of life of premature infants becomes the central focus of care given in neonatal intensive care units. The aim of the present study is to assess the knowledge of mothers on tactile stimulation for preterm neonates.

#### **Materials and Methods:**

A descriptive research design was adapted for the study. The study was conducted among the mothers of preterm neonates admitted in a private medical college hospital at Chennai. The samples were selected by non probability purposive sample. After obtaining informed consent from the mothers of preterm neonates the data was collected from 40 mothers by using a self administered structured questionnaire. The tool consists of section-A Demographic Performa which includes age, educational status, occupation, location of residence, previous information on tactile stimulation and section-B Structured knowledge questionnaire consists of thirty multiple choice questions with one right answer. Each right answer carries one score and the wrong answer carries 0 score. The total score of the questionnaire is 30 the scores were interpreted as 1-10: inadequate knowledge, 11-20: moderate knowledge and 21-30: adequate knowledge.

#### **Results:**

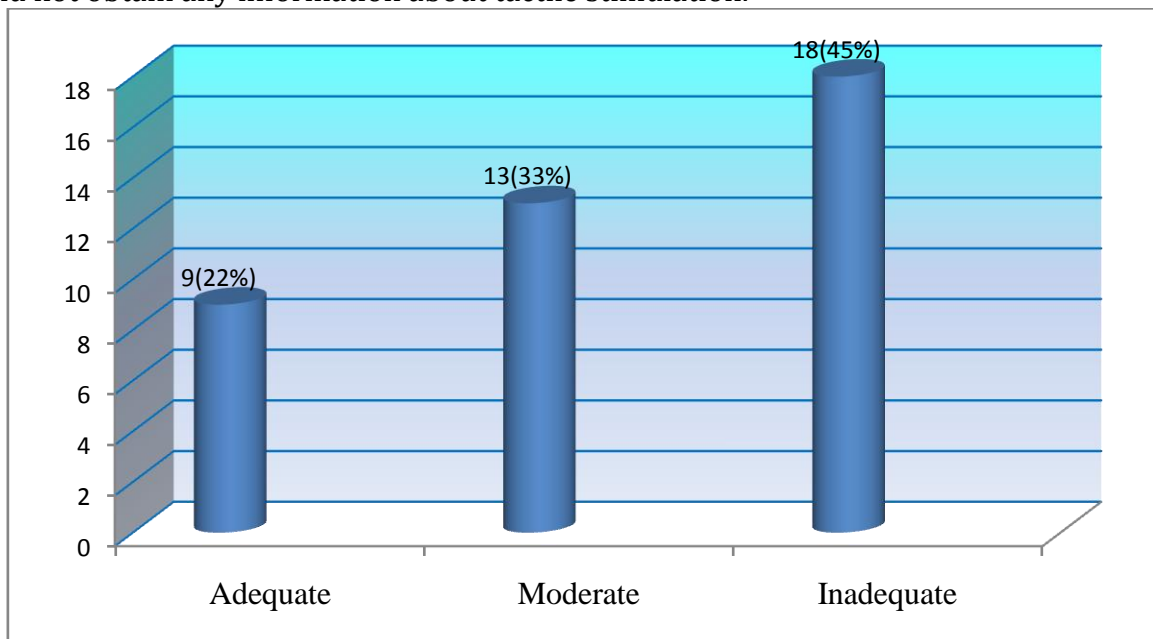
**Table.1 Distribution of baseline data**

**N = 40**

| <b>S. No</b> | <b>Baseline data</b> | <b>Frequency</b> | <b>Percentage</b> |
|--------------|----------------------|------------------|-------------------|
| <b>1.</b>    | Age in years         |                  |                   |
|              | a. 20-25             | 14               | 35                |
|              | b. 26-30             | 12               | 30                |
|              | c. 31-35             | 9                | 23                |
|              | d. Above 35          | 5                | 12                |

|    |   |    |    |
|----|---|----|----|
| 2. | Education status                            |    |    |
|    | a. No formal Education                      | 5  | 12 |
|    | b. primary education                        | 14 | 35 |
|    | c. high school                              | 10 | 25 |
|    | d. higher secondary                         | 9  | 23 |
|    | e. Graduate                                 | 2  | 5  |
| 3. | Occupation                                  |    |    |
|    | a. Home maker                               | 18 | 45 |
|    | b. Daily labour                             | 9  | 23 |
|    | c. Govt employee                            | -  | -  |
|    | d. Private employee                         | 13 | 32 |
| 4. | Location of Residence                       |    |    |
|    | a. Rural                                    | 25 | 63 |
|    | b. Urban                                    | 15 | 37 |
| 5. | Previous information on tactile stimulation |    |    |
|    | a. Yes                                      | 12 | 30 |
|    | b. No                                       | 28 | 70 |

The baseline data in the table.1 revealed that majority of the mothers belongs to 20-25 yrs of age and out of 40 mothers majority (35%) studied up to primary education and 12 up to high school. Regarding their occupation most of them (45%) were home maker. Most of the mothers (63%) were residing in the rural area and majority(70%) did not obtain any information about tactile stimulation.



**Figure.1 Frequency and percentage distribution of level of knowledge**

The data in the figure one depicts that out of forty mothers only nine mothers had adequate knowledge on tactile stimulation, thirteen had moderate knowledge and eighteen of them had inadequate knowledge. It was also found that there was an association between the knowledge and educational status, knowledge and previous information obtained on tactile stimulation. The mothers studied up to higher secondary and graduate level had more knowledge than the others and those who had

received previous information on tactile stimulation got better knowledge than those who did not receive.

**Discussion:**

The present study aimed to assess the mothers knowledge on tactile stimulation and the result revealed that most of the mothers (45%) of preterm neonates were having inadequate knowledge on tactile stimulation. A similar study conducted to explore the level of knowledge of first time mothers attending Mowbray Maternity Hospital (MMH) regarding the importance of tactile stimulation during infancy and early childhood. A sample of 41 participants, constituting 40% of the study population (N=101) was randomly selected. The findings show that 90% (n=37) of the participants were knowledgeable about tactile stimulation strategies, 81% (n=33) knew about the impact of tactile stimulation on the bonding domain, 75% (n=31) on the emotional domain, 52% (n=21) on the physical domain and 43% (n=18) on the social domain.<sup>14</sup>

**Conclusion:**

The study result shows that majority of the mothers are having inadequate knowledge on tactile stimulation. The mothers must be given adequate information by the health team members on tactile stimulation to improve their knowledge. Further studies can be conducted to know the effect of tactile stimulation by implementing the tactile stimulation to the preterm newborn.

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