

Effect of Supportive Nursing Intervention on the Stress Levels among Parents of Premature Infants at Neonatal Intensive Care Unit

¹Faten H. A., ²Hanaa I. E.

¹Department of Psychiatric Nursing, Menoufia University, Menoufia, Egypt

²Department of Pediatric Nursing, Menoufia University, Menoufia, Egypt

Abstract: Prematurity is more stressful experience for parents that produce an emotional and behavioral response. The purpose of the study was to “assess the effect of supportive intervention on the stress levels among the parents of premature infants in NICU. Design: Quasi-experimental design (one group pretest- posttest) was used. Setting: This study was conducted at Neonatal Intensive Care Unit of Menoufia University Hospital, Egypt. All available parents of premature infants in the hospital (50 parents) were included in the study. A structured questionnaire sheet was used to assess parents' knowledge about prematurity and Parental Stressor Scale-NICU was used to assess parents stress levels about premature infants hospitalized in the NICU. Results: The study illustrated that mean and standard deviation of stress was 124.1±12.7 pre- intervention and decreased to 65.6±9.67 post intervention. Conclusions: The supportive intervention was effective in improvement knowledge and decreasing stress level of parents. Recommendation: Educational interventions and coping strategies should be implemented to all parents of premature infants in NICU to improve their awareness about prematurity and dealing with stress.

Keywords: Supportive Nursing Intervention, Stress, Premature infant, Neonatal Intensive Care Unit.

1. INTRODUCTION

Preterm birth is a noteworthy worry during perinatal period with worldwide yearly frequency around 13 million [Lumsden & Holmes, 2010 and Mathews., Arialdi., Michelle., Donna & Guyer, 2011]. 50% of preterm births are preceded by preterm labor and approximately causes 70% of neonatal deaths and 36% of infant deaths [Voss & Jungmann, 2012]. Likewise, more than half of preterm newborn children need admission to a neonatal emergency unit that emotionally challenging experience for parents who are waiting for their new family member [Kellam & Bhatia, 2008 and March of Dimes, 2015]. Parents of premature infants encounter numerous stressors related to preterm birth, the mother's medical condition and/or infant admission to the neonatal in NICU and perceived vulnerability of the infant with a wide range of stresses [Mohammed, 2011 & Carter., Mulder., Bartram and Darlow, 2005]. Prematurity is a term used for the wide group of neonates born at less than 37 weeks' gestation. Preterm labor is the leading cause of neonatal death and the main cause for antenatal hospitalization [American College of Obstetricians and Gynecologists, 2016]. Risk factors of prematurity are diabetes, hypertension, being either overweight or underweight, infectious diseases, cigarette smoking and psychological stress [World Health Organization, 2014].

The assessment of parental stress sources during hospitalization of their infant in NICU and its related components is crucial to recognize parents at risk for prompt and extensive physical and psychological troubles. Learning about such stress sources and components may help human services experts in creating and actualizing mediations expecting to give benchmarks for quality improvement in NICU [Busse., Stromgren., Thorngate and Thomas, 2013] and to advance family-

focused consideration [Cockcroft, 2012]. All through the hospitalization of a preterm infant in NICU, parents experience different stressors that may meddle with the parent -baby relationship. First, the infant's condition and appearance, unusual breathing and lower responsiveness to social cooperation [Sikorova & Kucova, 2012]. Second, the obstacles to the improvement of connection abilities by both parents and the infant prevent changes in parental roles [Shin & White-Traut, 2007]. Third, the worry that the medicinal services group may misconsideer the needs of the child and lacking the parent's information on the diagnosis or treatment [Sikorova & Kucova, 2012]. Fourth, the stressors related to the alteration process to parenthood, alongside feelings of self-blame and guilt for putting the child through the pain [Arnold., Sawyer., Rabe., Abbott., Gyte & Duley, 2013]. Finally, the complexity of the NICU environment, with unknown ambiguous particular smells and lights, loud life support and monitoring equipment , lack of privacy and the constant presence of healthcare professionals [Busse., Stromgren., Thorngate & Thomas, 2013].

Prematurity has been observed to be a strong predictor of decreased care, whereas research has reported a feeble effect of prematurity on the improvement of child attachment [Korja., Latva & Lehtonen, 2012]. Stress is an inevitable, normal experience that is felt when the individuals are unsure if they can meet the demands of their environment [Patnaik, 2014]. Past individual characteristics, for example, age, gender, physical well-being, there are biological and logical elements, including geographical location, financial status, race, and ethnicity that affect the level of stress and undermine the physical and psychological wellness of parents [Beeber., Schwartz., Holditch-Davis., Canuso., Lewis & Hall, 2013]. Stress is a condition of physical and mental disturbance produced by inside or natural stimuli due to infants who are admitted to NICU experience. A great deal of stress can be due to the interruption in the maternal-infant bonding process, unawareness of their emotional disturbance source. The whole family encounters a noteworthy disturbance in their everyday schedules because of their successive visits to NICU, and lengthy period of nonattendance from home with a lack of attention to their other kids [Nouri., Kelishadi., Ziaoddini, 2010 and Higman., Shaw, 2008]. So, they experience moderate to abnormal amounts of stress when a newborn child is premature [Gooding., Cooper., Blaine., Franck., Howse & Berns, 2011]. Increased stress may prompt the improvement of postnatal responses, such as posttraumatic stress disorder, that that can affect parents and infants interaction and impair infant's development [Barlow., Smailagic., Huband., Roloff & Bennett, 2012].

Nurses assume a crucial part in helping parents all through the unpleasant, bad background of the NICU by creating remedial connections, giving passionate backing, furnishing parents with exact, clear data, including guardians in giving consideration to their baby, and getting to guaranteed mediators for guardians to empower them to make inquiries and get the data they require. These methodologies empower guardians to feel more upheld, more included, sure, and more viable as guardians of their defenseless infant. Supporting and encouraging their child rearing part will diminish their anxiety, strain, nervousness, and despondency. Medical caretakers are urged to help parents discuss the unpleasant experience of the NICU and to encourage them having additional time and closeness with their baby. There is a requirement for further research to comprehend and depict the parents' experience of family-focused consideration and formative steady care in the wake of nursing intercession programs have been executed with parents whose newborn child in the NICU [Obeidat., Bond & Callister, 2009].

Significance of the study:

Perfect and complete population information and medical records usually do not present in developing countries. Additionally, appraisals of the rate of preterm birth in developing nations are influenced by a scope of elements including differing techniques used to decide gestational age [Brandon., Tully., Silva., Malcolm., Murtha., Turner & Holditch-Davis, 2011]. Preterm infants represent a huge attribution in the neonatal intensive care units [Abdeyazdan., Shahkolahi., Mehrabi & Hajiheidari , 2014]. In many countries, In the NICU, care is limited to infants and deserts the role of parents so, the delivery of a premature infant is a crisis for the parents since their transition to parenthood is interrupted and the worries about the survival and future development of the child take over [Miles ,M.S., Holditch-Davis., Schwartz & Scher, 2007].

Neonatal nursing is still overcome with supporting parents is not just adjusting to the introduction of a preterm newborn child yet moreover accepting their parental part through various considerations [Agaard & Hall ,2010]. Building up an emotionally supportive network for parents of NICU newborn children appears to be frantically expected to enhance parent- baby holding [Heidari., Hasanpour & Fooladi, 2013] Since amid the hospitalization of the babies, the Neonatal

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Intensive Care Unit staff, particular nurses, are regarding parents more than some other individual and then again they are more aware of the infant's status, they have a critical part in supporting the parents [Glasser., Lerner-Geva., Levitski & Reichman, 2009]. The level of parental information and cognizance shifts so, instruction and presentment of medical education and supportive source for are more beneficial than intelligence support [Mianaei., Karahroudy., Rassouli & Tafreshi, 2014].

Successful correspondence and giving proper expectant direction are fundamental parts of nursing consideration provided to parents in the NICU empowers them to be more efficient in adapting to the stress of having a premature baby and the stress related to the health and well-being of their infant. Parental information of the ICU has been credited to an enhanced comprehension of the circumstance, a feeling of consistency of the NICU experience, and a confidence to deal with the inclusive stress of having a premature baby [Melnyk et al., 2006]. So, the present study aimed to "assess the effect of supportive intervention on the stress levels among the parents of premature infants in NICU.

The purpose of the Study:

The purpose of this study was to identify the effect of a supportive intervention on the stress levels among the parents of premature infants in NICU.

Research Hypothesis:

Parents who will receive the supportive intervention will reduce the stress of having premature infants in NICU.

Operational definitions:

- Supportive intervention is the process of providing encouragement or emotional help.
- Stress is a state of mental or emotional strain or tension resulting from adverse or demanding circumstances
- APremature infant is a baby born before the end of the full term of gestation, especially three or more weeks before.
- Neonatal Intensive Care Unit is a department of a hospital in which newborn children who are dangerously ill are kept under constant observation Methods.

Research design:

A quasi-experimental design was utilized for this study.

Research Setting:

This study was conducted at Neonatal Intensive Care Unit at Menofia University Hospital. High Risk Unit at Menoufia University hospital contained two rooms with incubators, mechanical ventilators, suction machine, phototherapy, oxygen therapy and infusion pumps.

Sampling:

All available parents of premature infants in the hospital (50 parents) were chosen from the previously mentioned setting. Sample size has been calculated using the following equation $N = (Z^2 * P * q) / D^2$ at CI 95% and power of 80% .

Inclusion criteria:

- a) Both parents consenting to be involved
- b) Primigravida and multigravida mothers
- c) Parents with no previous experience in a NICU

Exclusion criteria:

- a) Parents of infants with congenital anomalies, hearing loss or chromosomal disorders.
- b) Mothers were excluded from this study if they had an uncontrolled maternal illness, use of illicit drugs and history of significant maternal abuse.

2. MATERIALS AND METHODS

A quasi experimental design used on pre and post- intervention. It was completed in the Neonatal Intensive Care Unit at Menoufia University Hospital. Convenience samples of 50 parents of premature infants were included in the study from October 2016 and lasted until February 2017. The researchers collected the data during the morning and afternoon shift at four days/week from 10 AM to 4 PM. The subjects were divided into groups (each group interviewed twice per week). The meeting went on for 20-30 minutes, contingent upon the reaction of parents. Demographic information parents such as age, a level of education, mode of delivery, gestational age and weight....etc.

Instruments of the Study:

- 1- **Social characteristics of parents (age & education) and premature infants (gestational age, sex, and weight).**
 - 2- **The Parental Stressor Scale-** NICU was used to assess parents stress levels about premature infants hospitalized in the NICU. This tool was developed by [Miles., Funk & Carlson, 1993]. It is a self-report survey in which parents rated sources of stress by using a Likert scale (1 = not at all stressful, 5 = extremely stressful) within 3 domains: Infant Behavior and Appearance (17 items), Sights and Sounds (6 items), and Parental Role Alterations (11 items). Parents were asked to mark only those events they had experienced or that were relevant to their NICU stay per standard administration protocol.
 - 3- **Semi- structured interview questionnaire sheet.** This tool was developed by the researchers to evaluate parents knowledge .It includes questions related to prematurity, causes, clinical manifestations, treatment and NICU equipment.
- **Validity** Before starting the data collection, the tool was translated into Arabic and tested for their content validity by a group of five experts in psychiatric and pediatric nursing the required modifications were carried out according to their opinion.
- Reliability** The reliability of the tools was computed using Cronbach's Alpha ($r = .541$). This method was used to measure the homogeneity of the tools.

Procedure

Preparatory phase:

The data collection instrument was developed after a review of past and current, local and international related literature including books, articles, periodicals and magazines to get acquainted with the various aspects of the research problem and to acquire the needed knowledge to conduct the study and prepare the necessary instrument.

Approval: A certified consent became acquired from the administrators to get permission for data collection.

Apilot study was carried out during October 2016 to check the applicability of equipment and to determine the time had to fill the study and excluded from it.

Ethical considerations: at the initial interview every parent was knowledgeable about the reason and advantages of the study and informed that their participation is voluntary, finally, parent's formal consent for participations has been obtained.

Implementation phase:

Fieldwork: Data collection was conducted from October 2016 to February 2017. The subjects were divided into groups (each group interviewed three times per week). Every interview lasted for 30 minutes. Each 2 parents are considered as a group (each group interviewed three times every week for the initial two weeks), so each group took two sessions for the practical part and four educational sessions with demonstration and re-demonstration. At the beginning of the study, subjects were assessed for stress then attended sessions about standard care. Reassessment occurred after the supportive intervention of the study.

Standard care: Standard care was carried out in six 30-minute sessions that focused on environment, equipment, and medical staff of the NICU, care procedures (e.g. venipuncture), characteristics of premature infants (e.g. appearance,

behavior, and physical signs), common medical terminology in the NICU, possible feelings of parents during their infant's hospitalization, and methods of participation in infant care (e.g. kangaroo mother care).

Evaluation phase: post- test was carried out after completing the sessions to identify the effect of a supportive intervention on the stress levels among the parents of premature infants in NICU.

3. DATA PROCESSING AND ANALYSIS

Data were analyzed using the IBM Statistical Package of Social Science (SPSS) version 20. Descriptive and analytical Procedures were performed. Tests of significance included ANOVA (f) test, Chi-squared and Pearson correlation (r), p<.05 was considered statistically significant.

Limitations of the study:

The sample size was relatively small, and the study was implemented in only one site.

4. RESULTS

Table (1): Social characteristics of studied group revealed that 48.0% of fathers were in the age group (25 - <30) but mothers were 66.0% in the age group (20 - < 25), 48% have gestational age (30-35 weeks) and 74% have birth weight from 2000-2500 kg.

Table (2): Mean stress domains pre and post intervention demonstrates that there is a highly significant difference in the domains of stress in the post-test than in pre -test. This means that the stress is decreased post the intervention

Table (3): Mean knowledge score pre and post intervention. This table shows there is a highly statistically significant relation between Knowledge score on pre and post the intervention.

Table (4): Relation between total stress score and demographic characteristic of parents revealed that there was a highly statistically significant relation between total stress score and father education pre and post the intervention and a significant relation between total stress score and mother education.

Table (5): Correlation between stress domains and Knowledge. This table shows there is a highly statistically significant correlation between stress domains and Knowledge pre and post the intervention. This means that when the knowledge increased the stress decreased.

Figure (1) Comparison between pre-test and post-test regarding the domains of stress demonstrated the domains of the stress in the post-test are higher than in pre -test. This means that the quality of life is improved post the intervention.

Figure (2) Comparison between mean knowledge score pre and post intervention: This figure demonstrates the knowledge in the post-test is higher than in pre -test. This means that knowledge improved post the intervention

Table (1) Social characteristics of studied group

| Social characteristics | No. | % |
|--------------------------|-----|------|
| Father age : | | |
| - 25 - <30 | 24 | 48.0 |
| - 30 - < 35 | 12 | 24.0 |
| - 35 -< 40 | 7 | 14.0 |
| - ≥40 | 7 | 14.0 |
| Father education: | | |
| - Illiterate | 5 | 10.0 |
| - Diploma | 15 | 30.0 |
| - Bachelor | 30 | 60.0 |
| Mother age : | | |
| - 20 - < 25 | 33 | 66.0 |
| - 25 - <30 | 3 | 6.0 |
| - 30 - < 35 | 10 | 20.0 |
| - 35 -< 40 | 4 | 8.0 |

| | | | |
|------------------------------------|-------------------|----|------|
| - | ≥40 | 0 | 0.0 |
| Mother education: | | | |
| - | Illiterate | 0 | 0.0 |
| - | Diploma | 27 | 54.0 |
| - | Bachelor | 23 | 46.0 |
| Infants Methods of delivery | | | |
| - | Vaginal delivery | 0 | 0.0 |
| - | Cesarean delivery | 50 | 100 |
| Gestational weeks | | | |
| - | 25- 30 | 13 | 26.0 |
| - | 30-35 | 24 | 48.0 |
| - | 35 - 40 | 13 | 26.0 |
| Sex | | | |
| - | Male | 36 | 72.0 |
| - | Female | 14 | 28.0 |
| Birth weight | | | |
| - | 1000- 1500 | 13 | 26.0 |
| - | 1500- 2000 | 0 | 0.00 |
| - | 2000 – 2500 | 37 | 74.0 |

Table (2) Mean and standard deviation of causes of stress on pre and post- intervention

| causes of stress | Pre | Post | Paired t-test | P value |
|----------------------------------------------|---------------|---------------|---------------|----------------|
| | ±SD \bar{X} | ±SD \bar{X} | | |
| Stress about sights and sounds | 24.5±2.26 | 12.0±4.15 | 16.2 | 0.001** |
| Stress about behavior and appearance | 65.8±8.75 | 33.2±5.55 | 18.9 | 0.001** |
| stress about parental role alteration | 33.8±4.54 | 20.3±4.38 | 14.2 | 0.001** |
| Total stress score | 124.1±12.7 | 65.6±9.67 | 21.9 | 0.001** |

**highly significant

Table (3): Mean and standard deviation of the level of knowledge on pre and post intervention

| Studied variable | Pre | Post | Paired t-test | P value |
|------------------------|---------------|---------------|---------------|----------------|
| | ±SD \bar{X} | ±SD \bar{X} | | |
| Knowledge score | 55.9±16.6 | 84.8±8.20 | 14.0 | 0.001** |

**highly significant

Table (4): Relation between total stress score and demographic data of parents:

| Demographic data | Pre | Test P value | Post | Test P value |
|--------------------------|------------|----------------|-----------|--------------|
| Father age : | | | | |
| - 25 - <30 | 123.9±13.3 | F= | 65.7±10.4 | F= |
| - 30 - < 35 | 118.2±10.3 | 1.80 | 65.0±9.39 | 0.372 |
| - 35 -< 40 | 129.8±11.0 | 0.160 | 63.1±2.26 | 0.773 |
| - ≥40 | 129.1±13.2 | | 68.5±12.6 | |
| Father education: | | F= | | F= |
| - Illiterate | 119.8±10.7 | 33.9 | 63.4±9.52 | 0.502 |
| - Diploma | 138.8±2.89 | 0.001** | 64.1±8.97 | 0.609 |
| - Bachelor | 117.5±9.57 | | 66.7±10.2 | |

| | | | | | |
|--------------------------|-------------|--------|------------|---------------|----|
| Mother age : | | | F= | | F= |
| - 20 - < 25 | 125.4±13.6 | 2.67 | 65.4±10.1 | 1.05 | |
| - 25 - < 30 | 131.0±0.001 | 0.058 | 58.0±0.001 | 0.376 | |
| - 30 - < 35 | 115.1±9.33 | | 69.0±0.7 | | |
| - 35 - < 40 | 130.5±1.00 | | 64.5±1.73 | | |
| Mother education: | | t-test | | t-test | |
| - Diploma | 124.7±15.6 | 0.393 | 68.7±9.99 | 2.65 | |
| - Bachelor | 123.3±8.30 | 0.696 | 61.8±7.96 | 0.009* | |

*significant**highly significant

Table (5) Correlation between stress domains and Knowledge

| Studied variables | Knowledge | |
|---------------------------------------------|-----------|---------|
| | R | P value |
| Stress about sights and sound | 0.072 | 0.620 |
| Stress about infant behavior and appearance | 0.079 | 0.584 |
| Stress about parental role alteration | 0.144 | 0.320 |
| Total Stress | 0.142 | 0.326 |

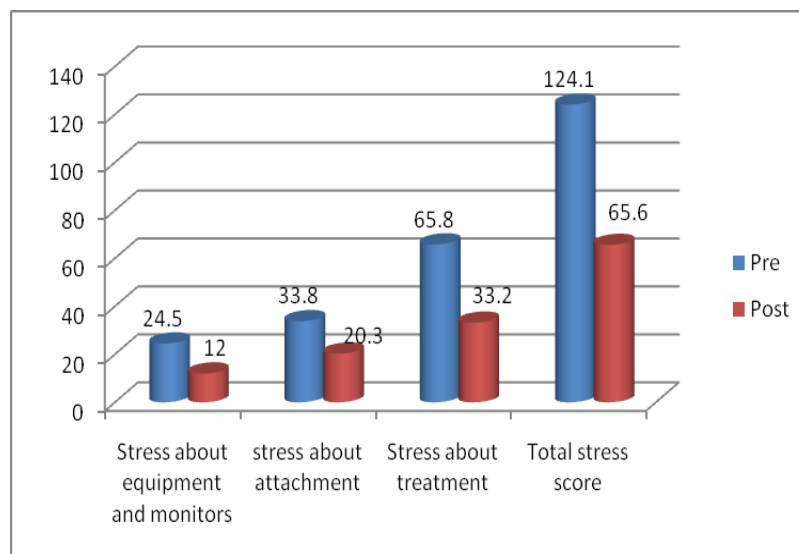


Figure (1) Comparison between pre-test and post-test regarding the domains of stress

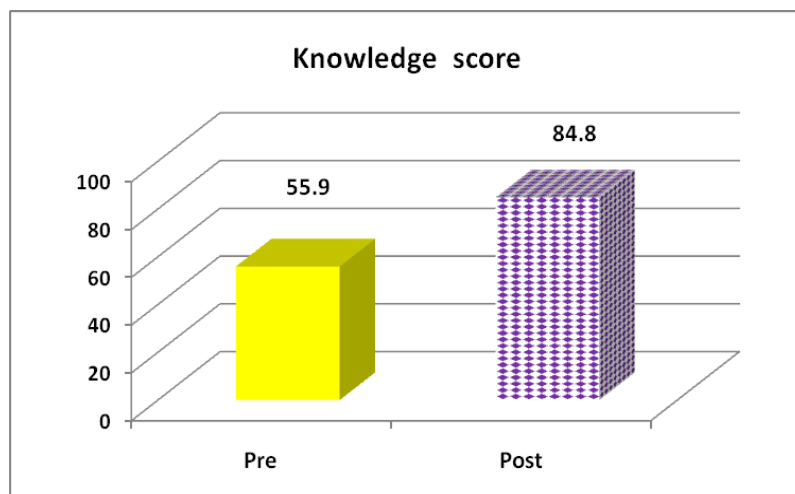


Fig (2): Mean knowledge score pre and post- intervention

5. DISCUSSION

The present study demonstrated that there is a profoundly measurably noteworthy connection between stress about sights and sounds on pre and post intervention. This result was on the line with [Turan., Basbakkal & Ozbek, 2008] in their study about " Effect of Nursing Intervention on Stressor of Parents of a Premature Infant in the Neonatal Intensive Care Unit ". They reported that the mean scores of mothers in regards to stress level had noteworthy contrasts in the subscales of NICU sights and sounds. Similarly, [Kaareesen., Ronning & Tunby, 2008] who studied" A Randomized Controlled Trial of an Early Intervention Program in Low Birth Weight Children: Outcome at 2 Years". They demonstrated that lessened stress in both parents in the experiment group compared to parents in the control group. This is inconsistent with [Melynk., Feinstein., Alpert-Gillis., Fairbanks., Crean & Sinkin, 2006] " Reducing Premature Infants' length of Stay and Improving Parents' Mental health Outcomes with the Creating Opportunities for Parent Empowerment (COPE) Neonatal intensive care unit program ". They demonstrated that COPE could have no critical reduction in the subscales of NICU sights and sounds. It may be credited to parent's ignorance of prematurity and NICU on pre-intervention.

The study found that stress about parental role alteration between parents and a premature infant was 33.8 on pre-interventions. This result explained by [Parker, 2011] who studied" Mothers' Experience of Receiving Counseling/Psychotherapy on a Neonatal Intensive Care Unit" they reported that having an infant in the NICU is a significant life stressor that has the potential to adversely affect a parent's association with their infant. This was in line with [Johnson, 2008] who studied "Promoting Maternal Confidence in the NICU ".They reported that there are limitations in a maternal role for premature infants in NICU. Also, [Cleveland, 2008] who studied "Parenting in the Neonatal Intensive Care Unit".They found that the greatest source of stress identified by mothers with infants in the NICU was the loss of maternal role. This could be related to emotional disturbances of parents after giving birth to a premature infant, inability to protect and provide care for them.

Infant behavior and appearance were the subscales classified as the most stressful among parents in the study (65.8%). This result is inconsistent with [Wormald et al., 2015] who studied " Stress in Parents of Very low Birth Weight Preterm Infants Hospitalized in Neonatal Intensive Care Units ". They found that the highest average score for stress was parental role alteration, followed by infant behavior and appearance, and sights and sounds at the NICU and [Chourasia., Surianarayanan., Adhisivam., Vishnu., & hat, 2013] who studied " NICU admissions and maternal stress levels" .They showed that an important source of stress in the families is the inability to meet their babies' basic needs, inability to protect them and being apart from them In addition, an Italian multicenter study conducted by [Alkozei., McMahon 7 Lahav, 2014] who studied " Stress levels and depressive symptoms in NICU mothers in the early postpartum period ".They also found that parental role alteration scored highest for stress (3.4). This could be rendered to an appearance of premature infants.

The present study found that there is a relation between education and stress on pre and post- intervention. This result was supported by [Dokken & Ahmann, 2006] who studied " The Many Roles of Family-Centered Care ". They demonstrated that an intervention which increased parental support, increased parental feelings of well-being, and ability to provide care for their infant and met parental needs. Also, [Pinelli, 2000] who studied "Effects of Family Coping and Resources on Family Adjustment and Parental Stress in the Acute Phase of NICU Experience ". They found that parental attributes connected with a higher parental stress were having a lower education level less than 8 years ($p= 0.034$) and also [Davis., Edwards., Mohay & Wollin, 2003] who studied " The Impact of Very Premature Birth on the Psychological Health of Mothers ".They found that maternal adaptation to stressors caused by neonatal hospitalization is strongly associated with socioeconomic and education levels. Another study conducted by [Wormald et al., 2015] who reported that among mothers of preterm infants associated a lower education level with the perception of receiving less support from nurses, and feeling more stress and maternal depression. [Montirosso., Provenzi., Calciolari & Borgatti, 2012] Who studied "Measuring Maternal Stress Perceived Support in 25 Italian NICUs ".They reported that a lower educational level was associated with higher parental stress levels. In addition [Cacciani et al., 2013] who studied "Interaction of Child Disability and Stressful Life Events in Predicting Maternal Psychological Health. Results of an area based study of very preterm infants at two years corrected age ".they stated that a high level of maternal education may be protective against psychological distress and parenting stress. This could be related to giving the vital clarifications and clear responses to parents during supportive intervention

The present study found that the stress level decreased on post-intervention (65.6) than pre-intervention (124.1). This result is in agreement with [Kaareesen., Ronning & Tunby, 2008] who studied "A Randomized Controlled Trial of an Early Intervention Program in Low Birth Weight Children: Outcome at 2 years". They showed reduced stress in both parents in the experimental group compared to parents in the control group and also, [Abdeyazdan., Shahkolahi., Mehrabi & Hajiheidari, 2014] they showed The Efficacy of the Intervention in Diminishing Stress among Both Mothers and Fathers of Infants in the NICU. [Mianaei., Karahroudy., Rassouli & Tafreshi, 2014] Who studied "The Effect of Creating Opportunities for Parent Empowerment Program on Maternal Stress, Anxiety, and Participation in NICU Wards in Iran". They showed that creating opportunities for Parent Empowerment (COPE) could fundamentally lessen the mean scores of "infant behavior" and "staff behavior" among mothers. This was in line with [Abdeyazdan., Shahkolahi., Mehrabi & Hajiheidari, 2014] who studied "A Family Support Intervention to Reduce Stress among Parents of Preterm Infants in the Neonatal Intensive Care Unit". They mentioned that parental support programs focusing on educational and emotional issues can reduce the stress of both parents. As well as [Ghadery., Abdeyazdan., Badiie & Boroujeni, 2016] who studied "The Relationship between Parent-Infant Attachment and Parental Satisfaction with Supportive Nursing Care". They showed a significant positive relation between mother-infant attachment and total scores of mothers' fulfillment with nurses' supportive function. This could be related to early intervention with parents help them to make decisions about their premature infants.

The current study found that there is a highly significant correlation between pre and post knowledge. This result is consistent with [Abdeyazdan., Shahkolahi., Mehrabi & Hajiheidari, 2014] who studied "A Family Support Intervention to Reduce Stress Among Parents of Preterm Infants in the Neonatal Intensive Care Unit". They stated that education increases knowledge and decreases stress for patients and families in the NICU and the appearance of a premature infant can be overwhelming for a new mother. This was in line with [Morey & Gregory, 2012] who studied "Nurse-Led Education Mitigates Maternal Stress and Enhances Knowledge in the NICU". They found that the stress and anxiety associated with premature birth decreased with an educational intervention. This was inconsistent with [Mee Ahn & Hee Kim, 2007] who studied "Parental Perception of Neonates, Parental stress and Education for NICU Parents". They mentioned that education had no adjustments in stress levels among mothers due to more prominent desires of their child-rearing role and duty as well as having more feelings of being overwhelmed and guilt. This could be related to improving their awareness about prematurity and NICU.

6. CONCLUSION

Based on the findings of this study and research hypothesis, it is concluded that parents who received supportive intervention had decreased stress level

7. RECOMMENDATIONS

Based on the findings of the current study, the following recommendations can be suggested:-

1. Educational interventions should be implemented to all parents to improve their awareness about prematurity and dealing with stress.
2. Simple documents to provide information for parents when their infants admitted to the NICU about the unit, treatments and infant's needs.
3. Parents stressors should be assessed and coping patterns should be identified during this period
4. Reliable learning and support of parents to care for their preterm infants.

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