

Comparison of Mothers and Nurses Viewpoint about Stressors for Parents with Premature Newborn in NICU

¹M. Akbarbegloo and ²L. Valizadeh

¹Department of Child and Family Health, School of Nursing and Midwifery,
Urmia University of Medical Sciences, Urmia, Iran

²Department of Child and Family Health, School of Nursing and Midwifery,
Tabriz University of Medical Sciences, Tabriz, Iran

Abstract: To compare mothers and nurses viewpoint about stressors for parents with premature newborn in NICU. Identification of the sources of NICU-related parental stress and quantification of its degree is essential to determine effective strategies to promote optimal parenting in this high risk setting. A comparative descriptive design was used. Data were collected by PSS questionnaire. The study population consist of all mothers with hospitalized premature newborn in NICU (n = 300) and nurses (n = 32) in three teaching hospital in Tabriz city (Iran). Validity of scale was determined by content validity with cooperation of ten faculty members of Nursing-Midwifery School of Tabriz and validity of translation assessed by one English language expert. Reliability of scale was evaluated with Cronbach's alpha (mothers = 0.87 and nurses = 0.94). The most stressor from viewpoint of mothers was relationship with the baby and parental role and from viewpoint of nurses were baby looks, behaves and treatments and relationship with the baby and parental role. Comparison viewpoint of mothers and nurses showed significant difference between them. Present study showed that there is significant difference between nurses and mothers viewpoints about parents of premature babies hospitalized in NICU. So, nurses closely assessment of parent's stressors especially, mothers of premature babies hospitalized in NICU is necessary for delivering family based care and making them satisfied with nursing services.

Key words: Premature newborn, stressor, mother, nurse, neonatal intensive care

INTRODUCTION

During 25 years current development in technology and investigation was caused to surviving many of newborns with different gestational age, even among very premature newborns (Kener, 2001). Approximately, 12% of infants are born prematurely (Byers *et al.*, 2006) and according to latest available statistics each year about 13 million families in the world experience preterm birth (Barnes and Adamson-Macedo, 2007).

Preterm infants are those infants who born fewer than 37 completed weeks of gestation (Ryan-Wenger, 2007).

Hospitalization of premature newborn is inevitable most of the time. The initial period of the infant's hospitalization is very stressful to parents. They must cope with an infant, who has more difficulties to care due to prematurely and associated illnesses (Mok and Leung, 2006).

Several investigation from the late 1970s, until the late 1990s recognized that sources of parental stress include the size and appearance of the infants surrounded by

equipment and experiencing various invasive treatments, changes in the expected parenting roles with newborns, including long period of separation and adjusting to the hospital and NICU environment (Miles *et al.*, 1999) also researches have showed that emotional responses of mothers with preterm infants are more than fathers (Miles *et al.*, 1992).

The postponement of parenting results in extended emotional and psychological stress that can lead to parents not being emotionally attached to their infant at the time of discharge and may contribute to greater parenting risk and child vulnerability (Franck *et al.*, 2005). Also, there is a risk for changing in parenting related to weakness in parent-infant attachment, disturbance in parents sleep, ineffective personal coping (Miles *et al.*, 2002).

Concerning special stance of nurses and their duties in NICU, recognition of nurses and families perception about stressors in NICU lead to facilitation of nursing investigations and increasing parental satisfaction. Although, studies about stressors from viewpoint of

parents has done. However, comparison of parents and nurses viewpoints not considered enough. Therefore, the purpose of this study is comparison of parents and nurses viewpoints about stressors in NICU.

MATERIALS AND METHODS

This study is comparative descriptive and the population consisted of all mothers with hospitalized premature newborn in NICU ($n = 300$) and nurses ($n = 32$) during the first 6 months, year 2007, in three teaching hospitals (Taleghani, Alzahra, Kodakan) in Tabriz city (Iran). Census sampling method was used. The criteria for selecting participants were mothers who had premature newborn (gestational age <37 weeks) without abnormality that hospitalized in NICU at least one week in one of the three mentioned teaching hospitals and including criteria for nurses were the nurses, who worked at least once a week during 6 months of research implementation in those NICUs. Parental Stressor Scale in NICU (PSS) that developed by Miles and Funk (1998) used for data collection. After informing about the purpose of the study for mothers, the questionnaires were completed through individual interviewing with mothers and in the end of 6 months, NICU nurses completed the questionnaires.

Subscales of the Parental Stressor Scale (PSS) was used to assess perceived stress related to the sights and sounds of the environment (6 items), baby looks and behaves and treatments (17 items), relationship with the baby and parental role (11 items). This questionnaire lists various stressful experiences of parents that has rated on a 5-point stress rating scale from: not at all stressful, the experience did not cause you to feel upset, tense or anxious, a little stressful, moderately stressful, very stressful and extremely stressful: the experience upset you and caused a lot of anxiety or tension.

Validity of scale was determined by content validity with cooperation of ten faculty members of Nursing Midwifery School of Tabriz city (Iran) and validity of translation assessed by one english language expert. Reliability of scale determined with participation of 30 mothers and 6 nurses that have including criteria (Cronbach alpha were 0.87 for mothers and 0.94 for nurses). Data analysis was done with SPSS (ver 13.5).

RESULTS AND DISCUSSION

Mothers' characteristics: From 300 participated mothers, (55.3%) of them had first delivery and (62%) caesarean section deliveries, in educational level approximately, (7%) of mothers having completed college credits or obtained

a bachelors degree, (34%) diploma, (26%) secondary school, (33%) primary school and illiterate. The mothers ranged in age from 15-41 years (mean = 25.57, SD = 5.6) and 98.3% of them have never NICU experienced.

Infant characteristics: Majority of them (64%) were first child in family, (61%) of newborns were male, birth weight rang was 500-3500 g (mean weight = 1685, SD = 614), gestational age were between 20-36 weeks and range of hospitalization period was 8-90 days (mean = 18 days).

Nurses characteristics: In current study, participated nurses had mean age 31 years, mean total working experience was 10 years and mean NICU working experience was 5 years, 68% of them was married and 32% was single. About 62% of married nurses had child.

Finding of this study showed the most stressful dimension for parents with hospitalized premature newborn in NICU from viewpoint of mothers is relationship with the baby and parental role (Table 1).

The greatest sources of stress often cited by parents was loss of their expected and desired parental role (Miles *et al.*, 1992, 2002; Miles and Funk, 1998). They report feeling disappointed and frustrated that they can not perform normal parenting tasks as they had anticipated and also feel extreme distress and helplessness about not being able to protect their infant from harm (Miles *et al.*, 1992).

Seideman *et al.* (1997) found that, parents experience the most stress from alteration in their parenting role and family's normal activities and parental responsibilities.

According to Nystrom and Axelsson (2002) and Davis *et al.* (2003), the greatest sources of stress for mothers were alteration of their parental role and separation from their newborn because of prolonged hospitalization. These mothers had experienced feeling such as despair, powerlessness, homelessness and disappointment, lack of control included emotional instability, threat, guilt and insecurity.

In another study, six NANDA-approved nursing diagnosis were identified from parents with hospitalized premature newborn that include: fear, risk for impaired parent/infant attachment, parental role conflict, risk for ineffective breastfeeding, impaired home maintenance and risk for caregiver role strain (Do Vale *et al.*, 2005).

Findings related to difference between three stressful sources from viewpoint of nurses showed significant difference and mean rank related to baby looks and behaves and treatments and relationship with the baby and parental role were high. Therefore, the least stress from viewpoint of nurses was NICU environmental stressors (Table 2).

Table 1: Discrepancy between three dimensions of stressors from viewpoint of mothers

Stressors	Mean rank	Freidman test
NICU environment	1.98	
Baby looks and behaves and treatments	1.91	df = 2
Relationship with the baby and parental role	2.11	Sig. = 0.047

Table 2: Discrepancy between three dimensions of stressors from viewpoint of nurses

Stressors	Mean rank	Freidman test
NICU environment	1.16	
Baby looks and behaves and treatments	2.50	df = 2
Relationship with the baby and parental role	2.34	Sig. = 0.047

Table 3: Difference in sources of stress between mothers and nurses in NICU

Stressors	Mean rank	Manwitney test
NICU environment		
Mother	152.91	p<0.001
Nurse	293.92	-
Baby looks and behaves and treatments		
Mother	152.22	p<0.001
Nurse	300.42	-
Relationship with the baby and parental role		
Mother	153.27	p<0.001
Nurse	295.52	-

Because of that physical appearance of premature infant may be stressful for parents (Affonso *et al.*, 1992; Shields-poe and Pinelli, 1997), emphasize to describe the premature newborn characteristics include the size, the lack of fat, the breathing, the weak cry for parents (James and Ashwill, 2007).

Melnyk *et al.* (2007) noticed, after interventional educational programs, consist of informational activities about appearance and behavioral characteristics of premature newborn via video caste and written materials lead to low parental stress in NICU, more positive relationship with child and improving their ideas about their parental role.

Comparison of mothers and nurses viewpoint about stressors in NICU showed significant difference between three dimensions of stressor (Table 3).

Janet *et al.* (2007) compared mothers, fathers, nurses and physicians viewpoint about parent's reaction to stressors during child hospitalization. Result showed difference between parents and professionals and also, between mothers and fathers.

CONCLUSION

Present study showed that there is significant difference between nurses and mothers viewpoints about parents of premature babies hospitalized in NICU.

So, nurses closely assessment of parent's stressors, especially mothers of premature babies hospitalized in NICU is necessary for delivering family based care and making them satisfied with nursing services.

ACKNOWLEDGEMENTS

The researchers thank head nurses of NICU in three Educational Center and Treatment Centers of Tabriz (Taleghani, Alzahra, Kydakan) for cooperation in gathering samples.

REFERENCES

- Affonso, D.D., I.L. Hurst, L.J. Mayberry, L. Haller, K. Yost and M.E. Lynch, 1992. Stressors reported by mothers of hospitalized premature infants. Neonatal Network, 11 (60): 63-70. PMID: 1448032.
- Barnes, C.R. and E.N. Adamson-Macedo, 2007. Perceived Maternal Parenting Self-Efficacy (PMP S-E) tool: Development and validation with mothers of hospitalization preterm neonates. J. Adv. Nurs., 60(5): 550-560. DOI: 10.1111/j.1365-2648.2007.04445.x.
- Byers, J.F., L.B. Lowman, J. Francis, L. Kaigle, N.H. Lutz, T. Waddell and A.L. Diaz, 2006. A quasi-experimental trial on individualized, developmentally supportive family-centered care. J. Obstet. Gynecol. Neonatal Nurs., 35 (1): 105-115. PMID: 16466358.
- Davis, L. *et al.*, 2003. The impact of very premature birth on the psychological health of mother. Early Human Dev., 73 (2): 61-70. DOI: 10.1016/S0378-3782 (03)00073-2.
- Do Vale, I.N., S.R. De Souza and E.V. Carmona, 2005. Nursing diagnosis identify during parent group meeting in a neonatal intensive care unit. Int. J. Nurs. Terminol. Classif., 16 (3-4): 65-73. PMID: 16438668.
- Franck, L.S., S. Cox, A. Allen and I. Winter, 2005. Measuring neonatal intensive care unit related parental stress. J. Adv. Nurs., 49 (6): 608-616. PMID: 15737221.
- James, S.R. and J. Ashwill, 2007. Nursing Care of Children. 3rd Edn. Principles and Practice, Elsevier, USA.
- Janet, D.C., T.M. Roger and A.D. Brian, 2007. Parental stress in the NICU: The influence of personality, psychological, pregnancy and family factors. Personality and Mental Health, 1 (1): 40-50. DOI: 10.1002/pmh.4.
- Kener, K., 2001. Nursing Clinical Guide for Newborn Caring. 1st Edn. In translation to Persian by Dr. Farrokh Saboni and Fereshteh Narengi. Research deputy of Arak University of Medical Sciences.
- Melnyk, B.M. *et al.*, 2007. An educational-behavioral intervention for parents of preterm infants reduced parental stress in the NICU and infant length of stay. Evid. Based Nurs., 10 (2): 41. DOI: 10.1136/ebn.10.2.41.

- Miles, M.S., P. Burchinal, D. Holditch-Davis, S. Brunssen and S.M. Wilson, 2002. Perception of stress, worry and support in black and white mothers of hospitalized medically fragile infants. *J. Pediatr. Nurs.*, 17 (2): 82-88. PMID: 12029601.
- Miles, M.S., J.M.S. Carlson and S. Brunssen, 1999. The nurse parent support tool. *J. Pediatr. Nurs.*, 14 (1): 44-50. PMID: 10063248.
- Miles, M.S., S.G. Funk and M. Kasper, 1992. The stress response of mothers and fathers of preterm infants. *Res. Nurs. Health*, 15: 261-269. DOI: 10.1002/nur.4770150405.
- Miles, M.S. and S.G. Funk, 1998. Parental stressor scale: Neonatal intensive care unit. *Nurs. Res.*, 42 (3): 148-152. PMID: 8506163. <http://nursing.unc.edu/crci/instruments/pssnicu/newpssnicu602.last>.
- Mok, E. and S.F. Leung, 2006. Nurses as providers of support for mothers of premature infants. *J. Clin. Nurs.*, 15 (6): 726-734. PMID: 17655549.
- Nystrom, K. and K. Axelsson, 2002. Mothers experience of being separated from their newborns. *J. Obstet. Gynecol. Neonatal Nurs.*, 31 (3): 275-282. PMID: 12033540.
- Ryan-Wenger, N.A., 2007. Core curriculum for primary care pediatric nurse practitioners, Mosby, st. Louis.
- Shields-poe, D. and J. Pinelli, 1997. Variables associated with parental stress in neonatal intensive care units. *Neonatal Network*, 16 (1): 29-37. PMID: 9205278.
- Seideman, Y.R., M.A. Watson, K.E. Corff, P. Odle, J. Haase and J.L. Bowerman, 1997. Parent stress coping in NICU and PICU. *J. Pediatr. Nurs.*, 12 (3): 169-177. PMID: 9198340.