

Relationship between parent–infant attachment and parental satisfaction with supportive nursing care

Akram Ghadery-Sefat¹, Zahra Abdeyazdan², Zohreh Badiee³, Ali Zargham-Boroujeni²

ABSTRACT

Background: Parent–infant attachment is an important factor in accepting parenting role, accelerating infant survival, and adjusting to the environment outside the uterus. Since family supportive interventions can strengthen the parent–infant caring relationship, this study sought to investigate the relationship between mother–infant attachment and satisfaction of the mothers with the supportive nursing care received in the neonatal intensive care unit (NICU).

Materials and Methods: In this descriptive–correlational study, 210 mothers with premature infants who were hospitalized in the NICUs affiliated to Isfahan Medical University hospitals took part. The data were collected via Maternal Postnatal Attachment Scale and researcher’s self-tailored questionnaire based on Nurse Parent Support Tool. Pearson correlation coefficient and multiple linear regressions were used to analyze the collected data.

Results: The results showed that the overall score of mother–infant attachment and the overall score of maternal satisfaction correlated with a correlation coefficient of $r = 0.195$. Also, the overall score of mother–infant attachment and mothers’ satisfaction scores in the emotional, communicative-informative, and self-confidence domains correlated with correlation coefficients of $r = 0.182$, $r = 0.0.189$, and $r = 0.0.304$, respectively. The results of multiple regression analysis revealed that about 15% of changes in the dependent variable (mother–infant attachment) could be explained by different dimensions of mothers’ satisfaction.

Conclusions: The results of the study showed that mother–infant attachment improved by increasing mothers’ satisfaction of supportive nursing care. Therefore, it seems necessary to increase maternal satisfaction through given nursing care support, in order to promote mother–infant attachment.

Key words: Attachment, Iran, nursing, premature (babies), premature birth, satisfaction

INTRODUCTION

Infancy has been known as a unique immortal relationship between a mother and her child. Bowlby suggested the word “attachment” to explain an efficient relationship between the child and his/her first caregiver, that is usually his/her mother. He believed that this relationship stimulates mother’s health during pregnancy, facilitates parental role acceptance, decreases post delivery depression, and ultimately, accelerates newborn’s adaptation with the environment, out of uterine, and increases its survival.^[1-3] Despite some factors favoring the formation of efficient

attachment after birth of a newborn, there are other factors that can prohibit formation of such an attachment. Pre-term birth and infant’s hospitalization are among the most important prohibiting factors in this regard.^[4] Physical separation of the infant from his/her parents due to critical condition of a premature infant, changes occurring in the expected parental role, and disability of parents to protect the infant, all play a pivotal role in the incidence of parents’ feelings of sorrow, absence, guilt, and insolvency.^[5-7] Research showed that the most important source of parents’ stress during premature infants’ hospitalization is associated with the disturbance in the trend of attachment and feeling of insolvency in how to help the newborn and perform the parental roles correctly.^[8] Development of healthy physiological outcomes in the newborn is directly

¹Student Research Center, Faculty of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran, ²Nursing and Midwifery Care Research Centre, Isfahan University of Medical Sciences, Isfahan, Iran, ³Child Growth and Development Center, Isfahan University of Medical Sciences, Isfahan, Iran

Address for correspondence: Dr. Ali Zargham-Boroujeni, Nursing and Midwifery Care Research Centre, Faculty of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran.
E-mail: zargham@nm.mui.ac.ir

Submitted: 29-Oct-14; Accepted: 20-Jul-15

Access this article online

Quick Response Code:



Website:
www.ijnmrjournal.net

DOI:
10.4103/1735-9066.174756

associated with parent–infant attachment. On the other hand, the parents cannot obtain the ability to solve the problem of unexpected newborn's birth and making a warm attachment with him/her without receiving support from others in the social system.^[9] Nurses' emotional and psychological support can be counted as an important factor that increases parents' self-confidence in interaction with their newborn.^[10,11] Importance of such an issue had been clarified long time ago; for instance, in 1907, Budin pointed out the importance of parents' relationship with their premature infant. About 1 year later, giving the parental support was suggested as a crucial component of nursing function, and was gradually considered as a professional intervention.^[12-14] Appropriate response to parents' needs, especially mothers' needs, necessitates nurses' awareness of the parents' needs.

Research showed that nurses understand and prioritize mothers' needs thoroughly different from what they really are. Research also showed that mother–nurse relationship is influenced by different approaches and can lead to unsuccessful nursing interventions, unfulfilled mothers' needs, low quality of care, and ultimately, mothers' dissatisfaction.^[15] Individuals' expectations about social support and their understanding of its accessibility are the factors influencing their satisfaction obtained from such support.^[16] Therefore, the concept of nursing supports from the mothers', the families', and nurses' viewpoints are not similar. On the other hand, parents' approach toward nursing support is defined by their satisfaction with the nursing care given to their infants.^[17] Consequently, investigation of parents' satisfaction is an acceptable criterion to measure and detect the quality of the given nursing care.^[18] Since parents' satisfaction is dependent on nursing function in terms of physical, emotional, spiritual, informative, communicational, and educational supports,^[13,19] and on the other hand, high level of satisfaction is associated with the continuation of care, and reduction of anxiety and increase of parents' adaptation,^[20,21] nursing supports during administration of family-centered care bring about a valuable chance for the parents and their infants to form a safe attachment. In this regard, the studies conducted on the importance of family-centered intervention and the nurses' role in empowerment and increase of parent–infant interaction in Australia and Colorado can be mentioned. Both studies reported the positive effect of nursing support in formation of mothers' trust in making reciprocal interaction with their infants.^[11,22] In Iran, associated studies with the goal of detection of the importance and condition of nurses' support as well as the effect of interventional programs on the level of parents' stress revealed the importance of nursing support from the viewpoint of the parents and its effect on

improving parent–infant interaction.^[23,24] The results of the above-mentioned studies reveal the importance of nursing support and its role in empowerment of parent–infant attachment, as well as parents' understanding of nurses' supports. Meanwhile, no study investigated the association between parents' satisfaction level concerning nursing supports and parent–infant attachment and there is a lack of scientific and parent-focused interventions administered during infants' hospitalization to empower parents in order to make a positive understanding and interaction with their premature infant. Therefore, with regard to the importance of this issue and the impossibility of generalization of other studies due to cultural and religion differences, the present study aimed to investigate the relationship between parent–infant attachment and parental satisfaction with the supportive nursing care received in neonatal intensive care units (NICUs). The researchers tried to find an answer to the question, “Does mothers' satisfaction with different nursing support function domains have a predictive value for the mother–infant attachment”?

MATERIALS AND METHODS

This is a descriptive–correlational study. The study population comprised all mothers and the hospitalized newborns in the NICUs of three university hospitals (Shahid Beheshti, Al-Zahra, and Amin) affiliated to Isfahan University of Medical Sciences during the period from January to May 2014. The sample size was calculated as 190 subjects with a confidence interval of 95%, test power of 80%, and a correlation coefficient of 0.2. Keeping the probable dropouts as 15%, the ultimate number of subjects was calculated as 220. The subjects selected through convenient sampling included the mothers who, according to their self-report, were not suffering from major psychological and mental problems, lacked any acute physical defects that prohibited them from giving care to their infants, had infants who lacked an acute physical defect or disease, had gestational age of over 32 weeks, were primiparous, and had a wanted pregnancy. Exclusion criteria were: The mothers who were not interested in entering the study after selection, those who developed physical or motor problem during the study and lost their power to support their infants, and those whose infants' condition got so worse that it restricted any intervention or stimulations. After taking a letter of introduction from the nursing and midwifery school of Isfahan University of Medical Sciences, the researcher referred to the selected centers and conducted continuous convenient sampling with consideration of the number of hospitals and subjects and the inclusion criteria. Firstly, the researcher introduced herself to the subjects and explained about the goal of research, handed the questionnaires to them,

assured them about confidentiality of their information recorded in the questionnaires, and reminded them of their right to leave the study whenever they liked. Finally, after taking a written consent from the mothers whose infants had been hospitalized in NICU a week before, the researcher conducted personal interviews and collected the needed data. Data collection tool was a three-section questionnaire whose first section was associated with mothers' and infants' demographic characteristics such as age, education level, satisfaction with spouse, occupational status, mothers' residing location, as well as infants' sex, calendar age, gestational age, birth weight, and the cause and length of hospitalization. The second section evaluated mothers' satisfaction with nurses' supportive functions by a 25-item researcher-made questionnaire which was designed based on Margaret Miles Nurse-Parent Support Tool (NPST)^[13] and a questionnaire designed by Heidari *et al.* NPST is a 21-item questionnaire with the items scored based on a five-point Likert scale in the range 0–4 for each item; it consists of four subscales of emotional (4 items), communicative-informative (7 items), self-confidence (5 items), and supports and qualitative care (5 items), and measures the level of nursing support received by the parents. With regard to using this questionnaire in Iran, its validity was established by content validity with the co-operation of 10 academic members from pediatric and maternal care departments in the nursing and midwifery school of Isfahan, and necessary modifications were made. To tailor the questionnaire (to be capable of measuring mothers' satisfaction level), the mothers were asked (in questionnaire guideline) to determine the level of their satisfaction with each nursing supportive intervention mentioned in the questionnaire, based on Likert's scale. As the questionnaire of Heidari^[25] had been designed with a different goal, some of its items were added to the above-mentioned questionnaire after revision by experts (items 22–25) and based on the similarity in each subgroup; item 22 was added to emotional domain, item 23 to qualitative care domain, and items 24 and 25 were added to informative-communicative domains. Internal reliability of the tool was established by Cronbach alpha ($\alpha = 0.92$). The third section was on evaluation of the mother–infant attachment which was measured by the 19-item standard questionnaire of Condon and Corkindate Postnatal Attachment (MPAS).^[26]

This tool has three subscales of quality of attachment (9 items), lack of violence (5 items), and pleasant interaction (5 items). Validity of the tool was established by content validity method and with the co-operation of 10 academic members from pediatric and maternal health departments in the nursing and midwifery school in Isfahan. Internal reliability of the tool was established by Cronbach alpha ($\alpha = 0.72$). Finally, the obtained data were analyzed

by Pearson correlation and multiple linear regression using statistical software.

Ethical considerations

It should be noted that this research was approved by the ethics committee of vice chancellery for research (no. 392555) in Isfahan University of Medical Sciences.

RESULTS

This study was conducted on 210 mothers and their babies who were enrolled in the study based on the inclusion criteria and after the mothers had signed in the informed consent form. The results showed that the highest scores were for the domains of quality of attachment and self-confidence [Table 1]. Pearson correlation coefficient showed a significant direct association between the overall score of mother–infant attachment and mothers' satisfaction with nurses' supportive function ($P = 0.00$, $r = 0.20$) as well as the satisfaction scores in emotional ($P = 0.01$, $r = 0.18$), communicative-informative ($P = 0.01$, $r = 0.19$), and self-confidence ($P = 0.00$, $r = 0.30$) domains. Meanwhile, it had no significant association with the score of qualitative care ($P = 0.64$, $r = 0.03$). Among the different domains of satisfaction, the highest association of attachment was

Table 1: Mean (SD) of the mother-infant attachment scores and parental satisfaction with nurses' supportive function and its different domains

Questionnaires	Mean (SD)
MPAS	78.05 (8.47)
Quality of attachment	36.58 (4.80)
Absence of hostility	18.80 (2.34)
Pleasure in interaction	22.67 (3.26)
Parental satisfaction questionnaire	70.21 (15.54)
Emotional	67.38 (17.13)
Communicative-informative	69.39 (17.38)
Esteem support	70.69 (18.07)
Instrumental care	70.40 (16.72)

MPAS: Maternal postnatal attachment scale

Table 2: Correlation between mother-infant attachment scores and parental satisfaction with nurses' supportive function and its different domains

Parental satisfaction questionnaire	MPAS	
	P value	r
Parental satisfaction Q.	0.005	0.195
Emotional	0.008	0.182
Communicative-informative	0.006	0.189
Esteem support	0.000	0.304
Instrumental care	0.641	0.03

with self-confidence, informative-communicative, and emotional domains [Table 2]. Also, overall correlative coefficient obtained by multiple linear regression ($r = 0.40$) with a modified value of $R^2 = 0.15$ showed that about 15% of changes in the dependent variable (mother–infant attachment) can be explained by various domains of mothers' satisfaction with nurses' supportive function.

DISCUSSION

The results showed a significant positive association between mother–infant attachment and overall scores of mothers' satisfaction with nurses' supportive function. Many years ago, several researchers claimed that receiving basic nursing supportive function is beneficial for parents' satisfaction and, consequently, may improve mother–infant attachment. Researches on parental satisfaction in different places showed that the support received from nurses could reflect whether the parents were satisfied with nurses' supportive function to a high extent and considered them as their main emotional, informative, and self-confident care providers or not. They also believed that the nurses gave their infants the best care. In addition, the results showed that when the nursing support received by the mothers increases, their satisfaction is increases too.^[13,18,19] With regard to the effect of social supports on mother–infant attachment, Mercer and Ferketich showed that the social support received had positive direct effects on mother–infant attachment in immediate post birth period.^[27]

Studies of Highly and Joulie in 2008 and Ilit and Joy in 2005 on the manner of nurses' support concerning mother–infant attachment with two mother–nurse and mother–infant attachment methods showed that nurses could improve mothers' trust and companionship in their interaction with their infants through physical and social supports. They also improved mothers' attachment toward their children and bred the feeling of usefulness among them through participating in their infants' routine care.^[11,22] Therefore, the results of the present study are in line with the previous studies. The present study showed that overall score of attachment had a direct significant association with scores of satisfaction in emotional, informative-communicative, and self-confidence domains, but not with the score of qualitative care domain. Among the different domains of satisfaction, the highest association of attachment was with self-confidence, informative-communicative, and emotional domains, respectively. Several studies have shown that giving support to parents, especially mothers, and giving them information to attain and empower self-confidence forms an appropriate chance to help the parents provide their infants with care and interact with them. Among these studies, Jackson *et al.*, Melnyk *et al.*, and Flacking *et al.* are worth

mentioning. They reported that making communication with the mothers and giving them appropriate information and cultural and social context could increase self-confidence among the parents, and they consequently had a better control and power on their situations, had a more realistic approach toward the appearance and condition of their infants, started the bonding process and participated more in care and interaction with their infants, which helped in improvement of parents' beliefs in their parental role and attachment to their infants.^[28-30]

Our results also showed that about 15% of changes in dependent variable (mother–infant attachment) could be explained by different domains of mothers' satisfaction with nurses' supportive function. Abdeyazdan *et al.* showed that provision of emotional and informative support after infants' birth could diminish parents' stress and improve their empowerment to take care of their infant and play a parental role better.^[24] Mayumi *et al.* showed that helping the family members is a sort of nursing support, which is associated with interpersonal communication. Improvement of communicational behavior with family members leads to an increase in the quality of family-centered care and parents' ability in giving care to and have interaction with their infants.^[31] Literature review showed that in addition to the variables effective on attachment, which were under researcher's control, there were other factors including motherly care, social support during pregnancy, and satisfaction with spouse that were out of researcher's control due to the need for being investigated during pregnancy.

Lack of true explanations from the mothers during completion of the questionnaires can be counted as a limitation in the present study. On interviewing the mothers and completion of the questionnaire, the researcher concluded that mothers' criterion to measure nurses' function and their own satisfaction of nursing services did not completely coincide with their perceptions of the satisfaction questionnaire questions. It could be due to the difference in mothers' approaches and viewpoints concerning the needs and receiving nurses' supportive interventions. Therefore, with regard to the importance of this issue and the need for parent-focused scientific interventions, and as in the present study, mothers' satisfaction with nursing functions was evaluated by the existing statements in a quantitative questionnaire, it is suggested to investigate parents' approach and needs, especially those of the mothers of premature infants hospitalized in NICU, through qualitative and local studies, in order to obtain a unique criterion to evaluate parents' satisfaction with the nursing services in NICU. Investigation of mother–fetus attachment during pregnancy and comparing that with mother–infant attachment after infant's birth, as well as investigation of

the effect of nursing supportive services on parent–infant attachment are suggested in future studies.

CONCLUSION

The present study showed that different domains of nurses' supportive function could explain the mother–infant attachment by about 15% which shows the importance of mothers' satisfaction, especially of those with hospitalized premature infants, in empowerment of parental role to help them have a safe and warm attachment with their infants. As family-centered care is a golden standard in NICUs, the results obtained in the present study can be a step toward improvement of nursing service quality, empowerment of parental role and capability, formation of a safe attachment, causing an improvement in treatment and discharge of infants, as well as reduction of the economic burden imposed on the families and the health system.

ACKNOWLEDGMENTS

This article is derived from the master's thesis of the first author with project number 392555. The authors acknowledge the support received from Isfahan University of Medical Sciences, Clinical Research committee and Clinical Research Development Centre of Shahid Beheshti, Al-Zahra, and Amin hospitals, and all nurses of the above-mentioned hospitals.

REFERENCES

- Bowlby J. *A Secure Base: Clinical Applications of Attachment Theory*. USA, Canada: Psychology Press; 1998. p. 22-43.
- Bretherton I. The origins of attachment theory: John Bowlby and Mary Ainsworth. *Dev Psychol* 1992;28:759-75.
- Brandon AR, Pitts S, Denton WH, Stringer CA, Evans HM. A history of the theory of prenatal attachment. *J Prenat Perinat Psychol Health* 2009;23:201-22.
- Mercer RT, Walker LO. A review of nursing interventions to foster becoming a mother. *J Obstet Gynecol Neonatal Nurs* 2006;35:568-82.
- D'Souza SR, Karkada S, Lewis LE, Mayya S, Guddattu V. Relationship between stress, coping and nursing support of parents of preterm infant admitted to tertiary level neonatal intensive care units of Karnataka, India: A cross-sectional survey. *J Neonatal Nurs* 2009;15:152-8.
- Lumsden H, Holmes D. *Care of the Newborn: By Ten Teachers*. 1st ed. London: Hodder Arnold; 2010. p. 6.
- Parker L. Mothers' experience of receiving counseling/psychotherapy on a neonatal intensive care unit (NICU). *J Neonatal Nurs* 2011;17:182-9.
- Gale G, Flushman B, Heffron M, Sweet N. Infant mental health: A new dimension to care. In: Kenner C, McGrath J, editors. *Development Care of Newborns and Infants: A Guide for Health Professionals*. St Louis, USA: Mosby; 2004. p. 65-74.
- Verklan MT, Walden M. *Core Curriculum for Neonatal Intensive Care Nursing*. 4th ed.. Saunders United States of America: Saunders; 2010. p. 357.
- Johnson AN. The maternal experience of Kangaroo holding. *J Obstet Gynecol Neonatal Nurs* 2007;36:568-73.
- Browne JV, Talmi A. Family-based intervention to enhance infant-parent relationships in the neonatal intensive care unit. *J Pediatr Psychol* 2005;30:667-77.
- Hutti MH. Social and professional support needs of families after prenatal loss. *J Obstet Gynecol Neonatal Nurs* 2004;34:630-38.
- Miles MS, Carlson J, Brunssen S. The nurse parent support tool. *J Pediatr Nurs* 1999;14:44-50.
- Miles MS. Support for parents during a child's hospitalization. *Am J Nurs* 2003;103:62-4.
- Punthmatharith B, Buddharat U, Kamlangdee T. Comparisons of needs, need responses, and need response satisfaction of mothers of infants in neonatal intensive care unit. *J Pediatr Nurs* 2007;22:498-506.
- Hupcey JE. Clarifying the social support theory-research linkage. *J Adv Nurs* 1998;27:1231-41.
- Al-Akour NA, Gharaibeh M, Al-Sallal RA. Perception of Jordanian mothers to nursing support during their children hospitalisation. *J Clin Nurs* 2012;22:233-9.
- Miles MS, Burchinal P, Holditch-Davis D, Brunssen S, Wilson SM. Perceptions of stress, worry, and support in Black and White mothers of hospitalized, medically fragile infants. *J Pediatr Nurs* 2002;17:82-8.
- Conner JM, Nelson EC. Neonatal intensive care: Satisfaction measured from a parent's perspective. *Pediatrics* 1999;103 (Suppl E):336-49.
- Madani GH, Farzan A, Rabiee M. Patient satisfaction from medical and nursing services. *Iran J Nurs Midwifery* 2004;9:25-32.
- Sheikhi MR, Javadi A. Patients' satisfaction of medical services in Qazvin educational hospitals. *J Qazvin Univ Med Sci* 2004;7:62-6.
- Kearvell H, Grant J. Getting connected: How nurse can support mother/infant attachment in the neonatal intensive care unit. *Australian Journal of Advanced Nursing* 2008;27:75-82.
- Valizadeh L, Akbarbegloo M, Asadollahi M. Supports provided by nurses for mothers of premature newborns hospitalized in NICU. *Iran J Nurs* 2009;22:89-98.
- Abdeyazdan Z, Shahkolahi Z, Mehrabi T, Hajiheidari M. A family support intervention to reduce stress among parents of preterm infants in neonatal intensive care unit. *Iran J Nurs Midwifery Res* 2014;19:349-53.
- Heidari H, Hasanpour M, Fooladi M. The experiences of parents with infants in neonatal intensive care unit. *Iran J Nurs Midwifery Res* 2013;18:208-13.
- Cremona SE. Antenatal Predictors of Maternal Bonding for Adolescent Mother 2008, Victoria University Institutional Repository (VUIR); Available from: <http://vuir.vu.edu.au/cgi/oai2>. [Last accessed on 2013 Jul 13].
- Mercer RT, Ferketich SL. Predictors of parental attachment during early parenthood. *J Adv Nurs* 1990;15:268-80.
- Jackson K, Ternstedt BM, Magnuson A, Schollin J. Quality of care of the preterm infant-the parent and nurse perspective. *Acta Paediatr* 2006;95:29-37.
- Melnyk BM, Gillis L, Feinstein NF. An educational-behavioral intervention for parents of preterm infants reduced parental stress in the NICU and infant length of stay. *Evid Based Nurs* 2007;10:41.
- Flacking R, Ewald U, Nyqvist KH, Starrin B. Trustful bonds: A key to "becoming a mother" and to reciprocal breastfeeding. Stories of mothers of very preterm infants at a neonatal unit. *Soc Sci Med* 2006;62:70-80.

31. Mayumi M, Reiko N, Yoko K. Nurses perception of their relational behavior with family members of hospitalized patients: Survey of nurses who work at national hospital organizations in Tohoku district. *Journal of the Faculty of Nursing* 2006;8:1-12.

How to cite: Ghadery-Sefat A, Abdeyazdan Z, Badiee Z, Zargham-Boroujeni A. Relationship between parent–infant attachment and parental satisfaction with supportive nursing care. *Iranian J Nursing Midwifery Res* 2016;21:71-6.

Source of Support: Nil, **Conflict of Interest:** None declared.