

Original Paper

Relationship Between Social Support and Parents' Satisfaction With Medical Care Provided to Their Premature Infants



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ABSTRACT

Introduction: Premature birth is highly stressful for parents. Nursing support is crucial for premature infants. Parental satisfaction is a vital indicator of the quality of care provided by nurses. Therefore, determining the factors related to parental satisfaction is important in nursing care.

Objective: This study aimed to investigate the relationship between social support and parents' satisfaction with the medical care provided to their premature infants in the Neonatal Intensive Care Units (NICUs).

Materials and Methods: This is an analytical/correlational study. Participants were 130 parents of premature infants admitted to the NICUs in three hospitals affiliated to Tehran University of Medical Sciences in Iran. They were selected based on a convenience sampling method. Tarkka's Social Support Questionnaires and the Neonatal Index of Parent Satisfaction were used for collecting data. Data were analyzed by using descriptive statistics and t-test, Chi-square test, ANOVA and Pearson correlation test.

Results: It was reported that 55.38% of the infants were females, with a Mean±SD birth weight of 1880.97±544.85 gr and a mean gestational age of 32.07±2.41 weeks. The Mean±SD age of their mothers and fathers was 31.25±5.12 and 35.03±5.66 years, respectively. The highest level of social support in mothers and fathers was related to emotional support (3.65±0.69 in mothers and 3.29±0.57 in fathers), while the lowest level of social support was related to concrete support (3.32±0.80 in mothers and 3.16±0.65 in fathers). Mothers perceived higher social support than fathers. They also had more satisfaction with medical care (3.88±0.81 in mothers and 3.63±0.69 in fathers). There was a significant relationship between social support and parental satisfaction ($r=0.791$, $P<0.05$).

Conclusion: Parents of premature infants need more social support, especially concrete aid. Therefore, planning to promote social support of parents, especially fathers, by nurses in the NICUs seems necessary.

Keywords:

Premature infants, Social support, Parental satisfaction

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Highlights

- Nurses' social support for the parents of premature infants is significantly related to parental satisfaction.
- Social support of mothers with premature infants by nurses is higher compared to fathers.
- Satisfaction of mothers with medical care for their premature infants is higher compared to fathers.

Plain Language Summary

Premature birth is very stressful for parents. The nursing social support is very important for these parents who experience shock, sadness and confusion. Parental social support is in line with family-centered care. Social support reduces depression and stress and increases positive attitude and self-confidence. It also plays an important role in satisfaction with medical care. Satisfaction indicates the optimal quality of nursing services. Parental satisfaction is an important indicator to assess the quality of care provided by nurses, and determining the factors associated with parental satisfaction is important for nursing care. Results of this study showed a significant relationship between social support and parents' satisfaction with the care provided to their premature infants in the neonatal intensive care units. Therefore, the improvement of social support provided by nurses can increase satisfaction of parents with premature infants.

Introduction

More than 15% of newborns are admitted to Neonatal Intensive Care Units (NICUs) because of prematurity [1]. The rate of infant prematurity in Iran is 10% [2]. The premature infant is a baby born before 37 weeks of pregnancy [3]. Many infants after birth experience problems and need special care. Premature birth creates a stressful and critical situation for parents [4]. They are often confronted with challenges to play their parental role; the challenges that may have a long-lasting impacts on the family function [5]. Nurses have a unique opportunity to help parents during this situation. Parents of premature infants, because of these challenges and stresses, need social support [6]. It is important to reduce their stress during hospitalization of their premature infants. If sufficient social support is provided during the hospitalization, their stress can considerably decrease [5].

The active involvement of parents in caring for their infants is one of the best and most effective ways to reduce parental stress [7]. Support of parents is in line with family-centered care and aims to enable them to play their parental roles and support them in stressful situations [8]. Therefore, different organizations should support the parents to positively influence and promote infant health [3]. One of the important responsibilities

of nurses in NICUs is to provide family-centered care and increase the favorable outcomes. For this purpose, perceiving the needs of parents are very important. Inappropriate response to parents may cause anxiety and fear in family members [9]. Parents' anxiety increase with the prolongation of their infants' hospitalization. In this regard, they require social support and attention due to suffering high stress and anxiety [10, 11].

Social support is defined as interpersonal transactions that include emotional support, affirmational support, and concrete support. Emotional support is the sense of liking, admiration, and respect and involves care, sympathy, love, and trust. Affirmational support affirms functions and statements. Concrete support includes financial and informational aids and giving time [12]. Social support may have a facilitating role in stress tolerance and a prominent role in the individual health [12, 13], and can reduce postpartum depression, increase self-confidence in coping with stress, have positive effects on physical and mental health and increase the parents' life satisfaction [14, 15].

One of the most important aspects of nursing profession is the quality of communication between nurses and parents [15]. The balance between meeting the needs of patients and providing social support to their families can have great influence on the treatment satisfaction as well as improving the environmental quality of the care for the newborns [16]. A study showed that

parents of preterm infants hospitalized in the NICUs experience higher levels of stress and a feeling of hopelessness, and some measures are needed for providing support to them during this critical period [17]. However, Abedyazdan's study showed no relationship between supporting the parents of premature infants and parental stress and satisfaction [18].

Various aspects of social support, especially emotional support, have a protective effect on mental health. Social support also plays an important role in treatment satisfaction. Since the patients and their families are at the center of care, their satisfaction can indicate the correct process of providing care services [19]. This study aimed to examine the relationship between social support and parental satisfaction with the treatment of premature infants admitted to NICUs. The results can help nurses encourage parents to talk about their emotions, stress, and concerns more easily. Moreover, by identifying related factors, a higher level of nursing care quality can be achieved.

Materials and Methods

This is an analytical/correlational study. The study population consists of all parents with premature infants admitted to the NICUs in three hospitals affiliated to Tehran University of Medical Sciences (TUMS). Of them, parents of 130 premature infants were selected using a convenience sampling method and based on inclusion criteria (having a premature baby aged 28-37 weeks, the ability of parents to read and write in Persian, no congenital and neuromuscular anomalies in infants, no previous experience of having a baby admitted to the NICU or a premature infant, admission of the infant to the NICU at least in the past 3 days, availability of parents) and exclusion criteria (critical conditions that can lead to instability in parents or infants, and unwillingness to participate in the study). The sample size was determined considering $\alpha=0.05$, test power $(1-\beta)=0.8$ and $r=0.25$ [19]. Sampling was performed from January to May 2015 for about 6 months.

Their demographic characteristics including infants' gender, type of delivery, birth rank, infant's weight, duration of hospitalization, and parents' occupation and educational level were first recorded according to the parents' reports or the infants' records. After obtaining a written informed consent from the parents and ensuring the confidentiality of their information, two questionnaires were distributed among them including: Social Support questionnaire [19] and Neonatal Index of Parent Satisfaction (NIPS) [20]. The social support ques-

tionnaire has 21 items; the first 7 items are about the affirmational support; next 6 items are related to concrete support, and 8 remaining items measures emotional support. Its total scores ranges from 0 indicating no need for social support, to 6 indicating the highest level of need for social support. The content validity for the Persian version of this tool was evaluated by ten faculty members of the School of Nursing and Midwifery at TUMS and the necessary modifications were made according to their comments. The Cronbach's alpha for its reliability was measured by participation of the parents of 25 premature infants. The obtained value for its sub-scales varied from 0.76 to 0.8. The NIPS evaluates the parental satisfaction with medical care provided in the NICU containing 24 questions rated on a Likert scale from 1 (always or not satisfied) to 7 (never or completely satisfied). The total score ranges from 24 to 168, where the higher score indicates more satisfaction. This questionnaire was used in Iran by Kadivar et al [21] and they reported a Cronbach's alpha of 0.7. In our study, the Cronbach's alpha coefficient for the subscales of NIPS varied from 0.86 to 0.9.

The collected data were analyzed in SPSS V. 20 software using descriptive (frequency, mean and standard deviation) and inferential statistics (t-test, chi-square, and ANOVA) to analyze the relationships between variables. Correlation between variables was considered significant if $P<0.05$.

Results

In this study, 130 fathers and mothers of preterm infants were participated. Most mothers were delivered for the first time, with a birth weight > 2000 g (1880.97 ± 544.85 g) and most of them (86.9%) had cesarean section. The economic status of the most of parents was at moderate level (Table 1). The results indicated that the mean general social support was 3.21 ± 0.56 perceived by fathers and 3.52 ± 0.65 received by mothers. The mothers received more social supports in all three areas of affirmational, concrete and emotional. Also, the most of social support perceived by fathers (3.29 ± 0.57) and mothers (3.65 ± 0.69) was related to emotional support, while the lowest support perceived by the fathers (3.16 ± 0.65) and mothers (3.32 ± 0.80) was related to the concrete support. Mothers had more satisfaction with medical care (3.88 ± 0.81) than fathers (3.63 ± 0.69) (Table 2).

Pearson correlation test results showed that the overall score of social support and its three components had a significant relationship with the mothers and fathers' satisfaction with medical care ($P=0.001$) (Table 3).

Table 1. Socio-demographic characteristics of participants

Variables		No. (%)	Mean±SD
Mother's age (y)	21-24	19 (14.6)	31.25±5.12
	25-29	36 (27.7)	
	30-34	51 (39.2)	
	35-40	19 (14.6)	
	40 <	5 (3.8)	
Father's age (y)	21-24	8 (6.2)	35.03±5.66
	25-29	22 (16.9)	
	30-34	35 (26.9)	
	35-40	47 (36.2)	
	40 <	18 (13.8)	
Infant's birthweight (gr)	< 1500	40 (30.8)	1880.97±544.85
	1500-2000	28 (21.5)	
	> 2000	62 (47.7)	
Infant's age (week)	27-29	22 (16.9)	32.07±2.41
	30-32	48 (36.9)	
	33-36	60 (46.2)	
Duration of admission (day)	3-10	80 (61.5)	11.63±10.03
	11-20	30 (23.5)	
	> 20	20 (15.4)	
Mother's job	Housewife	114 (87.7)	-
	Self-employed	3 (2.3)	
	Employed	13 (10)	
Father's job	Unemployed	2 (1.5)	-
	Self-employed	88 (67.7)	
	Employed	40 (30.8)	
Mother's education	Elementary, Middle school	5 (3.8)	-
	High school diploma	40 (30.8)	
	Bachelor's degree and higher than	52 (40)	
		33 (25.4)	
Father's education	Elementary, Middle school	21 (16.2)	-
	High school Diploma	43 (33.1)	
		40 (30.8)	
	bachelor's degree and higher	26 (20)	
Economic status	Unfavorable	18 (13.8)	-
	Fair	100 (76.9)	
	Favorable	12 (9.2)	
Infant's gender	Female	72 (55.38)	-
	Male	58 (44.62)	
Type of delivery	Vaginal delivery	113 (86.9)	-
	Cesarean section	17 (13.1)	
Birth rank	First	64 (49.2)	-
	Second	45 (34.6)	
	Third and more	21 (16.2)	

Comparison of social support and satisfaction between mothers and fathers using t-test showed that the level of social support and satisfaction in mothers was higher than in fathers. Chi-square test results showed the lowest satisfaction was in fathers with self-employment and middle school education aged 35-40 years, and in

mothers aged 30-35 years with high school diploma and housekeeping occupation. The highest level of social support was reported in mothers and fathers with middle school education and the lowest social support was in mothers with elementary education and fathers with high school diploma. One-way ANOVA results

Table 2. Comparison of social support and parental satisfaction between fathers and mothers of premature infants

Variables			Mean±SD	Sig.*
Social support	Affirmational support	Mothers	3.55±0.76	0.001
		Fathers	3.17±0.69	0.004
	Concrete support	Mothers	3.32±0.8	0.001
		Fathers	3.16±0.65	0.006
	Emotional support	Mothers	3.65±0.69	0.001
		Fathers	2.29±0.57	0.001
	Total	Mothers	3.52±0.65	0.001
		Fathers	3.21±0.56	0.001
Parental satisfaction	Mothers		3.88±0.81	0.001
	Fathers		3.63±0.69	0.001

* T-test

showed that between-group and within-group difference in parental satisfaction and social support was not significant.

Discussion

The results of this study showed that the highest level of social support perceived by parents was related to the emotional support, while the lowest level was related to the concrete support. Fathers received less social support than mothers. Satisfaction with infant care was also reported higher in mothers than in fathers. Regarding the social support of parents with premature infants and its relationship with parental satisfaction, a

number of studies have been conducted. Oomen et al. [22] showed that social support is vital for parental with infants admitted to NICUs, and nurses should be encouraged to acquire communicative skills and provide social support for parents. In their study, fathers wanted more help and support from the nurses. Parents needed more concrete support and received more emotional support, which is consistent with our results. We found in our study that parents experience a lot of stress in NICU and it is necessary that nurses pay attention to them and provide support to them. A study reported that mothers experienced more stress than fathers in areas related to the ward's sounds and lights, staff behavior and communication, NICU-related parental role,

Table 3. Relationship between parents' social support and satisfaction with infants' healthcare

Social support sub-scales		Mothers' satisfaction	Fathers' satisfaction	Parental satisfaction (Total)
Affirmational support	r	0.797	0.746	0.828
	Sig.*	0.001	0.001	0.001
Concrete support	r	0.475	0.619	0.635
	Sig.*	0.001	0.001	0.001
Emotional support	r	0.751	0.516	0.702
	Sig.*	0.001	0.001	0.001
Total	r	0.778	0.712	0.791
	Sig.*	0.001	0.001	0.001

*Pearson correlation test

and the infant's health and behavior. The most stressful factor for parents was the change in their role after their infant's admission to NICU [23]. Another study showed that parents of premature newborns had higher levels of stress and anxiety even two months after discharge of their infants from the hospital compared to the parents of full-term infants [24]. In a meta-analysis, inconsistent with the current study, the stress experienced by parents of premature infants was also reported higher than that of parents with full-term infants [25]. This is consistent with the current study. Most studies, like our study, have shown that mothers in the NICU experience more stress and anxiety than fathers [26-28]. In our study, mothers had received more support than fathers. A study in Iran showed that the most important support received by mothers were informational-communication support and quality care support. Moreover, the difference between perceived importance and received support were statistically significant for four dimensions of parental support [3]. In another study, it was also shown that the parents of premature infants, especially mothers, experience higher stress in the NICU [29], and the stressors were factors that can cause stress and worry in parents. Therefore, their need for social support is essential.

Regarding the parents' satisfaction with the NICU care of their premature infants, our results showed that mothers were more satisfied than fathers; however, parents were not satisfied with the performance of NICU staff in some areas. Ahmadi et al. showed that mothers of preterm infants receive more social support than fathers, and more emotional support is provided to their fathers. Also, parents were satisfied with social support [30]. It seems that it is necessary to provide education for nurses in this field and also for the parents of premature infants. Consistent with our findings, a study concluded that women express their satisfaction more than men, and that the length of their stay in the NICU has a direct impact on their satisfaction [31]. A study by Karlsson et al reported that the highest level of satisfaction in family members was related to psychological support, and the lowest satisfaction was related to feeling comfortable in the department [32]. These findings are consistent with our results.

Regarding the relationship between social support and parents' satisfaction with provided care to their premature infants in the NICU, results revealed a positive significant correlation between them. The results of Shahkolahi showed that affirmational and emotional support for the parents of premature infants had a positive effect on their satisfaction [33]. Affirmational sup-

port is a component of social support that can have a positive effect on the patients' satisfaction. Finally, the results of this study indicated that most of the parents needed support from the NICU nurses in all dimensions of social support. It is necessary to provide more social support and pay more attention to the needs of parents with premature infants. By developing programs for this purpose, the satisfaction of parents with the NICU services and family-centered care can be improved.

This study had some limitations including high noise level in the NICU and parents' concentration problems when answering the questions. In our study, factors such as parents' age and educational level and duration of hospitalization in the NICU could affect the level of perceived social support. Therefore, it is suggested that other factors affecting social support should be studied. Further studies are recommended on evaluating the effect of an educational program for nurses on the quality of social support provided to the parents.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Research Ethics Committee of Tehran University of Medical Sciences in Iran (Code: IR.TUMS.REC.1394.215).

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Authors contributions

Conceptualization, funding acquisition, and data analysis: Mona Mohtashami and Zahra Ahmadi; Data collection: Malihe Amerian and Marzieh Faghani Ag-hoozi; initial draft preparation: Malihe Imeni and Mona Mohtashami; editing & review: All authors

Conflict of interest

The authors declared no conflicts of interest.

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