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Survey of parents Satisfaction of infants admitted in the NICU

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ABSTRACT

Aims: Despite the importance of patient satisfaction as an indicator of quality, updated information is not available on the satisfaction of parents of infants hospitalized in neonatal intensive care. The aim of this study was "to determine the degree of satisfaction of parents of infants hospitalized in the neonatal intensive care unit (NICU)".

Methods: In this cross-sectional study, parents of 300 infants admitted to the neonatal intensive care unit participated with cluster sampling of twelve elected government hospital in Tehran in 2012. Demographic data and data on parental satisfaction using valid and reliable researcher made questionnaire in three domains of welfare, medical and nursing services was measured with a likert scale ranged from 0-100. Data using descriptive statistics (mean, standard deviation) and inferential statistics (Pearson chi-square) were analyzed in $SPSS_{19}$ software.

Results: The mean satisfaction about the nursing care 63.6±14.5, medical care 54.05±11.9, welfare services 42.03±9.02 and the overall satisfaction 63.04±31.5. A significant relationship was observed between variables hospitals (p=0.0001), age (p=0.014), income (p=0.007), history of hospitalization (p=0.0001) and length of hospitalization (p=0.015) between total satisfaction.

Conclusions: The relatively high level of parental satisfaction with the three domains of welfare, medical and nursing care services, can be a desirable indicator of the quality of services provided, and the it is necessary for more parental satisfy , the medical team has more cooperation and assistance together. Doctors and nurses also need to establish closer communication and more intimate with parents. To be considered special amenities and facilities to meet the other family members with newborns.

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1. Introduction

Needs, expectations, expectations and experiences of patients receiving health services is a complex process of satisfaction of treatment becomes apparent.

Patient satisfaction is: evaluation of the patient who receives health care. Satisfaction, is an aspect of person's health , and without regard to personal satisfaction, health systems, unlike its mission to respond to the health needs of the people, acted on the other hand patient satisfaction indicate that health care professionals to response of this need of biological, psychological and social patient aware and responsibility about it [1].

Satisfied patients compared to dissatisfied patients show different responses with the service care received. The Patient who satisfied the services, continue use it, accepted the treatment recommendations and showing more effective cooperation and compliance with the treatment. Therefore more likely to use the service again, these people mostly call others to use that services [2].

Most of experts considered the Patient satisfaction of hospital services is one of the most important indicators of the effectiveness and quality of services offered in the various departments, and believe that a satisfied patient, is the key to success of hospital. It seems that the patient satisfaction survey, the main outcomes of the health system. Therefore hospital managers, supply and improve the patient satisfaction as their main prerequisite duties and they design objectives of the hospital in order aim customer (patient) [3].

The researchers and managers are interested to know how the patients' satisfaction and forming own purposes? The number of studies survey patient satisfaction has been increasing in recent years. Managers and Executives tend to achieve the strengths and weaknesses of the system by taking actions to resolve the deficiencies vision, increase their Satisfaction. Studies related to patient satisfaction with medical care in the United States began in the 1950s [4].

Patient satisfaction that consumer satisfaction is called, as a reliable and valid instrument to assess quality of care has been taken in the last decade. This also applies about infants. Considering the neonatal period, parents support the infant in health care's system, so they are representatives of the patients' views [5].

NICU is a place for providing progressed supportive cares, with multiple organ dysfunction or low birth weight newborns than 2500 grams or gestational age less than 37 weeks and neonatal respiratory distress syndrome in which specialized equipment and trained and qualified people regarding infants' cares are used [6].

According to the sensitive features this section to several factors can influence parental satisfaction had a several studies to determine the factors affecting parental satisfaction in the areas of nursing, medical and welfare have been [7].

Demir (2002) in his investigation showed four factors for parental satisfaction from treatment and medical services, nursing services, medical devices and nutrition are important [8].

Blackington in 1995 for the first time parental satisfaction to medical care provided in the neonatal intensive section investigated by the Checklist [9].

Following that in 1999 Kaner et al. made a Parent's Satisfaction Form (PSF) in NICU that measure two aspects (medical and nursing cares)[10].

Budreau et al. in 1994 made a Parent's Satisfaction Form (PFSQ) Pediatric Family Satisfaction Questionnaire in the pediatric ward [11].

Many studies have shown that the parent satisfaction survey was effective in the improving the quality of care. Because, with important information that the parent can give their comments to identify staff performance improvement program hospital management, organization future planning and design communication patterns and counseling an appropriate using [12].

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McCormick (2008) in his theory, he stressed the parent Satisfaction, and it is the principles of continuous quality improvement in system. Because the parent dissatisfaction leads to feelings of inadequacy, dissatisfaction of staff and consequently reducing the efficiency of the health system [7].

In Iran many studies have been done on children part parental satisfaction, but a study in the neonatal intensive care unit according to the sensitivity of this part, not available [13,14].

the parent satisfaction in the part NICU due to special circumstances such specific cases, the complexity of the system and create critical situation, can greatly show perform properly of services. Because the quality and quantity of services provided in hospitals in different regions, and patient satisfaction is influenced by various factors. Therefore this study aimed to evaluate the parent satisfaction with care in the intensive care unit neonates.

2. Methods

This study was a cross-sectional study. 300 the parent infants hospitalized in neonatal intensive care units of public hospitals selected by cluster sampling in Tehran (North, South, Central, East and West) in the July and August 2013 participated in the this study.

Data was measured by using a two-part questionnaire included the parent demographic information such as age, sex, education, income, and in the second part researcher made questionnaire. Measuring Parental satisfaction of hospitalized infants include of 3 part, 13 welfare, 19 nursing care, 16medical care and one general question. Each of the options are based on a Likert scale of very satisfied (score 5), satisfied (score 4), relatively satisfied (score 3), dissatisfied (score 2), very dissatisfied (score 1) and not (score 0), minimum and maximum scores for each domain were included, welfare: 13-65, nursing Care: 19-95, medical care: 16-80. Face validity was assessed by examining qualitative, quantitative validity determination was assessed by using of Content Validity Ratio (CVR) and Content Validity Index (CVI). Construct validity was assessed using exploratory factor analysis. To determine the reliability of the questionnaire completed by 15 mothers according to cronbach's alpha equal to 0.96, reliability was at an optimal level.

After achieving necessary permissions from Baqiyatallah Medical Sciences University and getting written satisfaction from the units of the study, the aims of the study had been explained to the units of the study. Freedom of the units of the study for entrance and exit, and also explanation about the questionnaire being anonymous had been done.

In this study, a researcher in morning and afternoon shifts refer to the neonatal intensive care unit and while interviewing and explain the objectives of the study, questionnaires available the parent infants who were hospitalized for at least one day, and after completing collected cluster sampling method and sample size in study period, with Morgan, 300 samples were obtained. Finally, after the data collection software $SPSS_{19}$ based on the purpose of the study, statistical analysis using descriptive statistics to determine the relative abundance and mean parental satisfaction And Pearson chi-square test to determine the correlation between areas of satisfaction and parental satisfaction relation with the variables age, education, length of stay, etc. were analyzed.

3. Results

According to this study, the mean age of the parent was 29.38±5.92 years.

most of the parent in the age group 45 to 18 years old and frequency of 50% for the 37-28 age group and length of stay 12.19±10.88 days. Most of parent with one child (53.7 percent), higher than diploma education (41 percent), Housewife (73 percent) and income (72.3 percent). 77.7% residence in Tehran, 22.3 percent lived in other cities. More infants (40%) were admissions in the morning, 21% had a history of previous hospitalized and most of them (52.3 percent), were social insurance (Table 1).

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Between the mean scores the parent satisfaction with hospital variables (Baqiyatallah, and Najmieh ...) (p=0.0001), age (p=0.014), income (p=0.007), history of hospitalization (p=0.0001) and length of stay (p=0.015) showed a significant relation.

As well as between type of hospital with welfare (p=0.0001), nursing care (p=0.0003),

Table 1: Frequency Table on the demographic characteristics of parents

Variable Frequency		Number (percent)
Age	18-27	115(38.3)
	28-37	152(50.7)
	38-47	33(11)
Gender	Woman	275(91.7)
	Men	25(8.3)
Education	Primary	15(5)
	Cycle	45(15)
	Diploma	117(39)
	Upper	123(41)
Job	self-employment	53(17.7)
	Government Jobs	28(9.3)
	Housewife	219(73)
Income	0	217(72.3)
	>500	7(2.3)
	1000000-500000	54(18)
	1500000-1000000	20(6.7)
	<500	2(0.7)
Insurance	Armed forces	72(24)
	Social security	157(52.3)
	Other	41(13.7)
	Azad	27(9)
Number of children	1	161(53.7)
	2	101(33.7)
	3	103(31)
	4	5(1.7)
	5	2(0.7)
Rating child	1	166(55.3)
	2	99(33)
	3	30(10)
	4	3(1)
	5	2(0.7)
Residence	Tehran	233(77.7)
	county	67(22.3)
Admission Shift	Morning	120(40)
	Evening	110(36.7)
	Night	67(22.3)
Admission history	Yes	63(21)
	No	1(0.3)
Length of stay	1-20	263(87.7)
	21-40	34(11.3)
	41-60	1(0.3)
	61-80	0(0)
	81-100	2(0.7)

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medical care (p=0.0004) and between type insurance with nursing care (p=0.0001) and medical care (p=0.0005) and the rank of child with welfare services (p=0.03), and the number of child with welfare services (p=0.01), and the time of reception with welfare (p=0.01) significant relationship was observe. Overall mean score for satisfaction with nursing care 63.6±14.5, medical care 54.05±11.9, welfare 42.03±9.02 and the overall satisfaction 63.04±31.5. The results showed, parental satisfaction in area welfare service highest satisfaction with health care costs and insurance (17 percent) and least satisfaction (17.3 percent) of not to meet the other members of the family (sisters, brothers and ...) and in area of nursing care, the greatest satisfaction from learning how to properly lactation (24.7 percent) and least satisfaction the weakness cooperation among personnel In care of infants (26.3 percent).

In the area medical care, the most satisfaction discharge of the necessary training like time next visit (19.7 percent) and least satisfaction the lack of information about the status of the infant to the parents (8.3 percent) was accounted.

In this study, the percentage of mothers on welfare 37.7 and 38.8 percent from the area of nursing care, 39.3 percent had complete or relative and satisfaction of medical care also correlation between satisfaction with all areas was significant (Table 2).

4. Discussion

The parental consent, their attitudes about expectations and preferences of providing comprehensive care (welfare service, medical and nursing care) in the neonatal intensive care unit [15].

Thus results of this study showed relatively high mean satisfaction the parent of three areas welfare service, medical and nursing care and Effect of the satisfaction each area from other areas. The 39.3 percent had complete or relative satisfaction of the parent of medical care The highest rates the parent satisfaction were related to education and discharge instructions such time was next visit. Education through reducing anxiety and fear about the disease and treatment methods will satisfy most parents and while training to the parent through increased knowledge and ability to care the parent accompanied by reducing the cost of care, improve health and reduce rehospitalization and decrease morbidity [16].

Researches of Dierssen-Sotos in 2009 showed that factors, such as; appropriate relationship with patient and his/her family and behaving gently and respectfully cause patients' satisfaction increase. Positive relationship between caring behaviors and patient satisfaction indicate that nurses and doctors spend more time to direct care infants and attention to issues and aspects of parental mental and emotional, and has important role played in Parents satisfaction, and by this way, Parents more follow the instructions and help improve infants' situation [3].

But lowest percentage of the parent satisfaction with medical care related to the lack of timely notification and fast, change status infants parent. Attention to the needs Parents for those who want to know increase their satisfaction of hospital services. Schaffer et al. (2000) reported a study about the parents who want to know about their child's situation, progress in treatment, testing and treatment done. Also

Table 2: Table of correlation between satisfaction areas

Area	Total satisfaction	Medical cares	Nursing cares	Welfare services
Welfare services	r=0.7 p=0.0001	r=0.5 p=0.0001	r=0.5 p=0.0001	
Nursing cares	r=0.9 p=0.0001	r=0.8 p=0.0001		r=0.5 p=0.0001
Medical cares	r=0.9 p=0.0001		r=0.8 p=0.0001	r=0.5 p=0.0001
Total satisfaction		r=0.9 p=0.0001	r=0.9 p=0.0001	r=0.7 p=0.0001

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Fumis (2008) believed that parents' interactions with doctors in the neonatal intensive care unit has great effect on parental satisfaction [18].

In this regard, Korsch et al. in their study showed Considerable percentage of complaints parent from doctors about lack of a clear explanation of the diagnosis and condition of the child, use of unfamiliar medical terminology and lack of intimate communication with parents [19].

Raatikamen (1991) says: Patient satisfaction depends on how the care provider's communication skills, whatever attention to human rights in interpersonal relationships is lower, as is the level of dissatisfaction is added [20].

In the area of nursing care 38.8 percent of parent were satisfied with relatively or complete. Highest percentage satisfactory was from education correct breastfeeding method.

According to the study, most (53.3%) of the infants were first child and their mothers hadn't previous experience on how to correct breast-feeding, so nurses could attract parents more satisfaction with provide accurate and timely education.

The lowest percentage of parental satisfaction in the area of nursing care weak coordination among staffs in the take care from infants. This result is opposite results Pourmovahed et al. (2007) [13]. Provide adequate medical care without the cooperation and teamwork of the medical team would not be success.

Marion et al. (2000) the unity and cooperation of the staff, an important factor in the overall satisfaction of parents and emphasize to promote nurses cooperation in area of nursing care [21].

In the area of welfare 37.3 percent of parents were relatively or completely satisfied. Most of the parental satisfaction were from medical expenses and insurance. Perhaps the reason is that 100% of the hospitals in the study were covered by insurance and Parents did not have to pay the high cost of treatment .The lowest satisfaction in this area related to be not allowed to meet with other members of the family (sister, brother, etc.).

Neonatal intensive care unit in a hospital is one of the most sensitive unit in this unit control of hospital infections has important role in improve the health of infants. Because the infant's immune system is not fully mature in this stage of life an important part of Nosocomial infections in this period of life, occur dangerous infections. Undoubtedly factor such as movement of visitors has important role in causing infection, Monitoring and control meet infants and prevent the crowded unit is one way to control infection [22].

In this study in the welfare area factors was caused parental dissatisfaction included: Low quality food, lack of comfortable seating for breastfeeding in the lack of television in some rooms, the low quality of the ventilation system of the room, far away from the mother's rest room. In this regard, arrangements must be considered for solving these needs.

In this study, between mean scores of parental satisfaction with age, duration of hospitalization history hospitalization, and hospital income, a significant relationship was found. Results indicate Satisfaction is higher in young parents. The Tsironi et al. (2012) because of unfamiliarity the parental from the health care and low expectations from the health care system [23].

The results of our study showed much longer length of stay in unit reduced parent's satisfaction.

Sometimes special circumstances may lead to prolonged hospitalization of their infants in the unit and during this time parents have to endure problems difficulty and crisis, are more emotionally, and could reduce their satisfaction. The results of Tokunaga (2002) and Tsironi (2012) on the length of stay synchronized with the results of our study indicate that, length of stay is much more satisfaction rate decreases [24].

The results indicated that between previous history hospitalization and satisfaction, there was a significant correlation. The researcher

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believes that the patients who had refer first to a health care service, may be take some time to have expectations and desires. Because many of expectations had formed as a result of past experiences.

It seems that people who have a history of previous hospitalization by adjusting their expectations with the experience that have been gain from health center could have a more satisfying but the contrary those who have not experienced hospitalization in the hospital maybe with a lot of ideals and expectations referred to the hospitals.

Other meaningful results from this study was relation between hospital (Baqiyatallah, Najmieh ...) and overall satisfaction. Perhaps due to differences in the quality and quantity of services provided by hospitals in different regions. Hospitals in different regions throughout Tehran, to serve their customers according to the funding and facilities available, about relation between income and overall satisfaction may be each amount of income is higher, the higher their expectations.

5. Conclusions

The relatively high level of parental satisfaction with the three domains of welfare, medical and nursing care services, can be a desirable indicator of the quality of services provided, and the it is necessary for more parental satisfy, the medical team has more cooperation and assistance together. Doctors and nurses also need to establish closer communication and more intimate with parents. To be considered special amenities and facilities to meet the other family members with newborns.

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