Investigation of Perceived Nurse Support and Hopelessness Levels of Mothers with Their Baby in Neonatal Intensive Care*

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Abstract

Aim: The investigation aimed to explore the correlation between nurses' perceived support and the hopelessness levels among mothers whose babies are in the newborn intensive care unit. The study used a descriptive, cross-sectional approach focusing on establishing relationships.

Method: The research was conducted within the newborn intensive care unit of two distinct clinics in Istanbul from February to July 2021. The study population consisted of 152 mothers whose babies were admitted to the intensive care units of these hospitals. Data collection was conducted using the Nurse Parent Support Tool, Beck Hopelessness Scale, and Personal Information Form.

Results: It was found that there was a weak, inverse, and statistically significant relationship between the total mean score of the Nurse-Parental Support Tool and the average score of the Beck Hopelessness Scale. Beck Hopelessness Scale mean scores at first hospitalization and discharge were analyzed. The decrease in findings had a significant statistical effect ($p<0.001$).

Conclusion: The study's findings revealed a statistically significant weak inverse relationship between the average total score obtained from the Nurse-Parental Support Tool and the mean score from the Beck Hopelessness Scale. Specifically, the average scores of the Beck Hopelessness Scale were analyzed both at admission to the hospital and at the time of discharge. It was observed that the data showed a statistically significant drop in the scores between these two events ($p<0.001$).

Keywords: Hopelessness, parent, support, nurse.

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ETHICAL STATEMENT: This study was carried out with the approval of the Biruni University Non-Interventional Clinical Research Review Board, dated 21/02/2021 and numbered 2021/48-02. Permission to use the scale was obtained from the responsible authors. A signed subject consent form in accordance with the Declaration of Helsinki was obtained from each participant.

Bebeği Yenidoğan Yoğun Bakımda Olan Annelerin Algıladıkları Hemşire Desteği ile Umutsuzluk Düzeylerinin İncelenmesi

Öz

Amaç: Bu çalışma, annelerin umutsuzluk düzeyleri ile algılanan hemşire desteği arasındaki ilişkiyi incelemek amacıyla yenidoğan yoğun bakım ünitesinde bebeği olan anneler üzerinde yapılmıştır. Çalışma kesitsel, tanımlayıcı ve ilişki arayıcı tarzda yapılmıştır.

Yöntem: Araştırma, İstanbul'da Şubat ve Temmuz 2021 tarihleri arasında, yenidoğan yoğun bakım ünitelerine sahip olan iki farklı hastanede gerçekleştirildi. Bu hastanelerin yoğun bakım ünitelerinde bebeği olan 152 anne, araştırmanın evrenini oluşturdu. Hemşire Ebeveyn Destek Ölçeği, Beck Umutsuzluk Ölçeği ve Kişisel Bilgi Formu kullanılarak veriler toplandı.

Bulgular: Hemşire-Ebeveyn Destek Ölçeği toplam puan ortalaması ile Beck Umutsuzluk Ölçeği puan ortalaması arasında zayıf, ters ve istatistiksel olarak anlamlı bir ilişki olduğu belirlendi. Beck Umutsuzluk Ölçeği'nin ilk yatış ve taburculuk anındaki ortalama puanları analiz edildi. Bulgular arasındaki azalma istatistiksel olarak anlamlıydı ($p<0.001$).

Sonuç: Analiz sonuçlarına göre, Beck Umutsuzluk Ölçeği'nin hastaneye kabul ve hastaneden ayrılış anında alınan ortalama puanları arasında istatistiksel olarak anlamlı bir azalış olduğu tespit edildi. Ayrıca, verilen hemşire-ebeveyn desteği ile birlikte annelerin umutsuzluk düzeylerinin azaldığı belirlendi.

Anahtar Sözcükler: Umutsuzluk, ebeveyn, destek, hemşire.

Introduction

There are many births in the world every year, and from these births every year, 15 million premature babies are born[1]. These premature babies need neonatal intensive care units (NICU) until their vital signs, systems, and organs reach a level that can sustain their lives[2]. The most common cause of mortality in newborn babies is preterm birth[3].

However, approximately one million babies die due to premature complications yearly[1]. For these reasons, prematurity is an important health problem that should be considered[4].

Premature babies are separated from their parents and taken to the NICU to receive medical treatment and survive[5]. The experience of parents taking whose babies are taken to the NICU can be highly stressful and distressing. The situation of having a baby in the NICU can lead to psychological despair and depression among both first-time parents and parents who have not previously experienced their baby being in the NICU. This challenging circumstance can significantly impact the emotional well-being of families[6]. Parents who have premature babies need support in the care of their babies. Nurses' birth

in the development and protection of maternal and infant health during and after having important responsibilities according to international legal regulations[4]. Nurses should help parents reduce the stress and emotional problems they have experienced, especially during this process[6]. Nurses frequently encounter parents of premature babies in the NICU. Parents who have babies in the NICU need physiological, psychological, and social support[7]. Insufficient knowledge of mothers about newborns leads to anxiety and feelings of inadequacy[8].

The thought of being separated from their babies and that their babies must receive treatment in the NICU causes hopelessness, stress, and anxiety in parents.

These emotional states cause parents to be unable to communicate well with their babies, leaving the baby in the NICU, especially the mother, to feel inadequate and guilty[1]. During this period, nurses should help families by making supportive nursing interventions and understanding the difficult processes they experience. The psychological support given to the family, starting from the intensive care process of the baby admitted to the NICU, helps to reduce the period of hopelessness, stress, and depression they experience and to increase their self-confidence. Nurses should provide information about the baby's home care and post-discharge processes, comfort them, and help reduce feelings of hopelessness and pessimism[9].

Research Questions

In accordance with these objectives and requirements, the study aimed to provide answers to the following questions:

1. What is the level of hopelessness level among mothers with hospitalized infants in the NICU?
2. How is nurse-parent support among mothers whose infants are in the NICU?
3. Does a correlation exist between the level of nurse support and the levels of hopelessness experienced by mothers?
4. Do some variables affect the hopelessness levels of mothers whose babies are hospitalized in the NICU?

Material and Methods

Type of Research

The study was cross-sectional, descriptive, and relationship-oriented to explore the correlation between perceived nurse support and hopelessness levels among mothers with babies in the NICU.

The study was conducted in the NICUs of two distinct hospitals in Istanbul between February and July 2021.

Study Design and Participation

The study universe consisted of mothers (N=450) of infants hospitalized in the NICU. In determining the number of samples, using the sampling method with known universe, 80% confidence interval of the sample number, p (the probability of occurrence of the investigated event) = 0.5; Assuming q (probability of not realizing the event under study) =0.5, a minimum of 121 parents was determined for a sampling error of ±5%. A group of 152 parents who fulfilled the research criteria and consented to participate in the study was established.

Data Collection

Before data collection, using the Informed Voluntary Consent Form, explanations were made to the parents individually, such as the purpose of the research, the duration of answering the questions, and the voluntary basis of participating in the research. They could terminate their participation at any time, and the information they provided would not be used out of the research, and their questions were answered. Data were collected within 24-36 hours after the newborn's admission to NICU. The participants were requested to complete both the Personal Information Form and BHS. Before the discharge of the newborns, the parents were asked to fill out the Nurse Parent Support Tool (NPST) and to re-answer the Beck Hopelessness Scale (BHS). It was ensured that the parents involved in the study filled out the data collection tools in a quiet and empty environment. The average data collection time was 25-30 minutes.

Data Collection Tools

The data collection process involved using three instruments: The Nurse Parent Support Tool (NPST), the Beck Hopelessness Scale (BHS), and the Personal Information Form.

Personal Information Form

The form used in this study, developed based on examining the existing literature by the researcher, includes comprehensive information about the sociodemographic attributes of both the parents and the newborns. The form consists of a total of 37 questions, encompassing various aspects such as growth parameters, diagnosis, treatment, and care-related inquiries[4, 10,11].

The Nurse Parent Support Tool (NPST)

The Turkish adaptation of the NPST, which was developed by Miles, Carlson, and Brunssen[12] in 1999, and its validity and reliability studies were carried out by Yiğit, Akdeniz Uysal, Alici, Binay, and Esenay in 2017[13]. Scale has answers as; (1) Almost never (2) Rarely (3) Sometimes (4) Most of the time and (5) Always in a five-point Likert type, consisting of 21 items and four consists of subscales. "Information and Communication Support" (9 items), "Emotional Support" (3 items), "Respect Support" (4 items), and "Quality Care" (5 items) are the subscales. The scale's minimum achievable score is 21, while its maximum achievable score is 105.

The greater the score achieved from the scale, the higher the perceived support of the parents. The Cronbach's alpha reliability coefficient for the entire scale is 0.87. Cronbach's alpha coefficient for the sub-factors of the scale was 0.76 for the first sub-factor, 0.68 for the second and third sub-factors, and 0.67 for the fourth sub-factor[13]. In this study, Cronbach's alpha coefficients for Nurse-Parental Support was 0.91, Information and Communication Support was 0.84, Emotional Support was 0.72, Respect Support was 0.81, and Quality Care was 0.53.

Beck Hopelessness Scale (BHS)

The BHS was developed by Beck, Weissman, Lester, and Trexler in 1974[14]. The validity and reliability of the scale in our country and its study were published in 1993 by Seber, Dilbaz, Kaptanoğlu, and Tekin[15]. It was built by Durak and Palabıyıkoğlu in 1994[16]. Considering Beck's cognitive theory, the purpose of developing this scale was to assess individuals' hopelessness level. The scale comprises 20 items and three sub-dimensions, which are; emotions and expectations about the future, loss of motivation, and hope. Scores on the scale range from 0 (lowest) to 20 (highest), with higher scores indicating higher levels of hopelessness. In the original study of the scale, the Kuder-Richardson-20 reliability coefficient was reported as 0.93. Additionally, Durak and Palabıyıkoğlu examined the factor of "feelings and expectations about the future" in their study[16].

Cronbach's alpha coefficient was 0.78, Cronbach's alpha for the "Loss of motivation" factor coefficient was 0.72, and Cronbach's alpha coefficient for the "Hope" factor was 0.72[16]. In this study, BHS Cronbach's alpha is 0.87, for feelings about the future in its sub-dimensions is 0.77, for the motivation loss is 0.69, and for the hope is 0.72.

Statistical Analysis

Statistical Package for the Social for the statistical analysis of the research Sciences v.24.0 (SPSS – IBM Corporation, New York, NY, USA) program was used. Frequency, percentage distribution, mean, and minimum-maximum for descriptive analysis values were examined. The normal distribution status was examined using the skewness and kurtosis values and analyzed with the Shapiro-Wilk Test. It was determined that both scales' sub-dimensions and total scores did not comply with the normal distribution. Non-parametric analyses were used for data that did not show normal distribution. The Mann-Whitney U test was employed for pairwise group comparisons, while the Kruskal-Wallis H test was utilized for group comparisons involving more than two groups. In the post-hoc analysis of the data, the Bonferroni correction was initially applied to pinpoint the groups that exhibited a statistically significant difference. Subsequently, it was examined using the Mann-Whitney U test for pairwise comparisons. The results were evaluated at the 95% confidence interval at the $p<0.05$ statistical significance level.

Ethical Considerations

Ethical approval was obtained for the study from the Biruni University Non-Interventional Clinical Research Review Board (Date: 21.02.2021, Issue: 2021/48-02). During the data collection phase, informed consent was obtained from the infants' mothers in alignment with the Helsinki Declaration of Human Rights guidelines.

Results

In this section, the study presents the findings related to the perceived nurse support and hopelessness among mothers whose babies are hospitalized in the NICU.

It was determined that 42.8% of the mothers had equal income-expenditure status, 39.5% were college graduates, 75% planned their pregnancy, and 56.6% of the newborns included in the study were male. Considering the diagnosis of newborns, 34.2% were diagnosed with TTN, 13.8% with hypoglycemia, and 11.8% with sepsis (Table 1).

Table 1. Findings related to sociodemographic characteristics of newborns and mothers (n:152)

Sociodemographic Characteristics		**(n)**	**(%)**
Educational Status	Literate	8	5.3
	Primary school graduate	6	3.9
	Middle school graduate	22	14.5
	High school graduate	56	36.8
	College graduate	**60**	**39.5**
Income Status	Income from the expense little	26	17.1
	Income to the expense equal	**65**	**42.8**
	Income from the expense more	61	40.1
Pregnancy Status	Planned	**114**	**75.0**
	Unplanned	38	25.0
Baby Gender	Male	**86**	**56.6**
	Female	66	43.4
Diagnosis of the Newborn	**Transient Tachypnea of Newborn**	**52**	**34.2**
	Respiratory diseases	13	8.6
	Small for Gestational Age	9	5.9
	Sepsis	18	11.8
	Premature	11th	7.2
	Hypoglycemia	21	13.8
	Hyperbilirubinemia	11th	7.2
	Nutrition intolerance	6	3.9
	Other	11th	7.2

It was determined that the mothers got 94.60±9.45 points from the NPST, the mean score of the BHS at the time of their first hospitalization was 12.32±4.57, and the mean score of the BHS taken before the discharge was 4.94±3.14 (Table 2).

Table 2. Findings related to the distribution of participants' Nurse Parent Support Tool and Beck Hopelessness Scale Scores (n:152)

Scales	Minimum	Maximum	Mean ± SD	Number of Item
Nurse Parent Support Tool	58	105	94.60±9.45	21
Giving Information and Communication Support	26	45	40.44±4.36	9
Emotional Support	7	15	13.93±1.52	3
Respect Support	9	20	18.46±2.02	4
Quality Care Giving	12	25	21.76±2.65	5
Beck Hopelessness Scale (First Hospitalization)	0	20	12.32±4.57	20
Future with Relating to Feelings and Expectations	0	5	2.70±1.55	5
Motivation Loss	0	8	3.84±2.19	8
Hope	0	7	4.20±1.09	7
Beck Hopelessness Scale (Discharge)	0	20	4.94±3.14	20
Future with Relating to Feelings and Expectations	0	5	1.95±1.03	5
Motivation Loss	0	8	1.79±1.51	8
Hope	0	5	1.75±1.13	7

Mean scores of BHS obtained at the time of first hospitalization and discharge were examined. The decrease between the findings was found to be statistically significant ($p<0.001$) (Table 3).

Table 3. Comparison of the Beck Hopelessness Scale mean scores of the group (n: 152)

Beck Hopelessness Scale	**Mean ± SD**	**Minimum- Maximum**	**Test Value p**
Pretest	12.32±4.57	0-20	Z: -9,958 **0.000**
Final Test	4.94±3.14	0-20	
Difference **(Δ)**	7.37±5.03	(-13)-17	-
Wilcoxon signed-rank test, p<0.05			

A weak, inverse, statistically significant relationship existed between the NPST total, and the BHS mean score (Table 4).

Table 4. The relationship between Nurse Parent Support Tool and Beck Hopelessness Scale (n:152)

	N	**r**	**p**
Nurse Parent Support Tool Beck Hopelessness Scale	152	-0.178	**0.029**
Spearman's rank correlation coefficient, p<0.05			

Discussion

It was determined that 56.6% of the newborns included in the study were male (Table 1). In the Akkoyun and Taş Arslan study, 60.4% of the babies were male[10]. In the study by Yılmaz and Kökçü Doğan 52.9% of the children were male[17]. In their study conducted in 2021, Özalp Gerçeker, Özdemir, Ayar, Bektaş İ., and Bektaş, M. stated that 61.8% of the children were male[18]. The number of live-born babies in 2020 was 1.112.859. 51.3% of live-born babies were male[19].

In this study, it was found that the mean total score of the participants on the NPST was 94.60±9.45 points (Table 2), with the lowest possible score being 21 and the highest score being 105. This result, which is above the average score, may be because the study was conducted in a private hospital, and a limited number of samples were included. In a study conducted in 2012, the NPST score was 80.4±17.4[18]. In another study conducted

by Yılmaz and Kökçü Doğan, it was found that the NPST score was 84.87±15.20 and the levels of parental support were high in both studies[17].

In this study, the participants' mean score from the BHS completed during the first hospitalization was 12.32±4.57. The mean score of the BHS taken before discharge was determined as 4.94±3.14, and a significant discrepancy was observed between them. ($p<0.001$) (Table 3). Considering the difference between BHS scores at the first hospitalization and discharge, it is seen that nurse support given to the parents reduces the hopelessness levels of the parents (Table 3 – Table 4). In addition to the data, when the relationship between the mean score of the NPST and the mean score of the BHS was examined, a weak, inverse, and statistically significant relationship was found between the scale results (Table 4). In their study conducted in 2021, Yılmaz and Kökçü Doğan stated that they were satisfied with the family-centered care practices and nurse support given to the parents, and as the support provided to the parents increased, the hopelessness of the parents decreased[17]. Their participation in the care of their babies increased. Erdeve also stated in his study that nurse support reduced parents' feelings of stress[20]. It was found that the mean score of the NPST and the levels of parental support were high, and they reported that the parents' stress levels increased as the nurse-parent support decreased[18]. In a study conducted in pediatric clinics in Turkey, they found that the training given by nurses to mothers with babies in the NICU increases the satisfaction level of parents, increases mother-infant interaction, and accordingly reduces the stress of parents to a minimum[21]. In another study, it was reported that emotional negativity situations such as stress, anxiety, and hopelessness of the child and parent were prevented by the training provided and the family-centered care approach[22].

Statistically significant differences were found in the nurse support provided to the participating parents based on their educational status ($p<0.05$). The difference in this area may be due to the difference between the information needs of the literate participants and those who are college graduates. While the participant, a high school graduate, is more experienced in researching and gathering information, the literate participant may be less experienced. For this reason, the literate participant may need more nurse-parent support than the college graduate participant. Aktürk reported in his study that as the education level of mothers increased, their problem-solving methods increased[23]. According to the study conducted by Coşkun and Akkaş, it was documented that there is a correlation between the educational level of mothers and their degree of anxiety[24]. Higher education levels being associated with lower levels of anxiety.

Considering that the higher the level of education of the parents, the more they develop themselves. The higher-school graduate participants may need less information and communication support from health personnel than the literate participants.

The Informed Voluntary Consent Form was signed by parents. Details such as the purpose of the research, the duration of answering the questions, and the voluntary basis of participating in the research were explained to parents.

The authors have no conflicts of interest to declare.

Study Limitations

The research findings were limited to the data obtained from mothers whose babies were in the neonatal intensive care unit of a private hospital in Istanbul and who consented to participate in the study. The hopelessness and nurse parent support levels measured in the study were limited to the scales used in the study.

Conclusion

The study revealed that the mothers had high mean scores regarding nurse-parent support. There was a statistically significant decrease in the mean scores of the BHS between the time of first hospitalization and discharge, indicating a decrease in the level of hopelessness among the mothers due to the provided nurse-parent support. Furthermore, a weak, inverse, and statistically significant relationship was observed between the mean score of the NPST and the mean score of the BHS.

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