

## Parent's Learning Strategies: A qualitative study on parents of preterm infants

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**Objectives:** This study aimed to understand the learning strategies of parents of preterm infants, hospitalized in NICU.

**Method:** This study was performed by qualitative research approach. Twelve participants including nine parents whose infants were admitted in NICU, two nurses and one physician, all selected by purposive sampling method were interviewed by a female expert occupational therapist. Data were gathered by semi-structured interviews. Data were analyzed by inductive content analysis approach.

**Results:** Three subcategories emerged from data analysis expressed learning strategies of parents of preterm infants hospitalized in NICU. These subcategories were: Asking question, Getting help, Learning caring skills.

**Discussion:** Preterm infants' parents stated that they do not have enough ability and knowledge for managing their feelings and needs. So, they seek for resources of help and apply some special strategies for playing parental roles correctly.

**Keywords:** Strategies, Parents, Preterm Infants, Content Analysis, Descriptive

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### Introduction

The birth of healthy neonate is the best gift from God, but giving birth to a premature neonate is considered to be a stressful event for parents (1, 2). Many studies report that parents especially mothers of these neonates experience high level of stress in the neonatal period (1, 3, 4). Preterm neonates are very vulnerable and weak and are admitted to a Neonatal Intensive Care Unit (NICU) due to receiving special care (5). In this situation, parents separate from their neonate which can increase parental stress. Also, it is hard and worrying because they do not know what the future will bring (2). It's common to go through powerful and mixed feelings – happiness, confusion, fear, worry, helplessness, anxiety, guilt, hostility, and more (6). These events

can disrupt parents' confidence and are caused interruption in acquiring the natural parental skills and psychological readiness. Preterm infants' parents feel incompetency in their parental roles (5, 6). So, these parents are seeking solutions that help them play parental roles more safely and carefully. They tend to learn and know more about their neonate.

In order to development the natural parent-infant relationship and bonding with infant, parents should be informed about the characteristics of preterm infants (7). It should be considered that ignoring the parental feelings and needs will lead to increasing vulnerability especially at the discharge or transition to home (5).

In family-centered approach, health providers should pay attention to parents and their key roles in

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treatment process and caring of infants (8). Therefore, understanding parental needs and feelings in the first step, helps the therapy team provide better services for them and also their neonates. Currently, limited studies have been done in this area in Iran and further studies are needed. The purpose of this qualitative content analysis was to understand the learning strategies of parents of premature infants, hospitalized in NICU.

## Methods

A descriptive qualitative method was used to achieve the aim of the study. Analyzing the content of narrative data help identifying prominent themes and patterns among the themes and is a method that is useful for studying phenomena about which little is known (9).

**Sample and data collection method:** This study was conducted in collaboration with parents, nurses, and a physician at the hospitals affiliated to Iran University of Medical Sciences in Tehran, Iran. Each participant was interviewed and audio taped using a semi-structured format with open-ended questions. The interviewer was a female occupational therapist who was expert in neonatology and has been involved directly in the care of these infants. She had 16 years experience in the field of pediatric family-centered occupational therapy and 10 years experience of early intervention. Interviews were conducted at a time and place of convenience to the participants. One participant was interviewed in his own home and others in a quiet private room within the hospital. All interviews were conducted by the same researcher. Prior to the beginning of each interview, researcher informed the participants about the purpose of the study and their permission were sought regarding the tape record. The researcher assured all participants that they could withdraw from the study at any time during the study.

First, participants were asked about their infant's current condition and the parents' demographic information. Then, parents were asked: "Please tell me what you do in NICU?" The interview was supported by questions about their feelings and needs in this situation. Participants were encouraged

to speak freely in a narrative form. The interviews took the form of a conversation, and the interviewer used active listening skills in this process. Interviews lasted between 20 and 60 minutes.

The parents' criteria for inclusion were: to be Persian-speaker; having a singleton, low birth weight premature infant with gestational age of 28 to 37 weeks in NICU for at least 7 days; having no genetic disorder, no grade 3 and 4 intra ventricular hemorrhage, no apgar under 7, no cardiopulmonary arrest in their infants; and no history of having another infant in NICU. The mean length of hospitalization in NICU was 34.5 days. Exclusion criterion was the participant's relinquishment in any step of the study.

**Ethical considerations:** Written and verbal informed consent was obtained from each participant according to a protocol approved by the Research Ethics Committee of the Iran University of Medical Sciences. They were asked to participate voluntarily and informed that they could refuse to enter or withdraw from the study at any time. To protect their privacy and confidentiality, interviews were conducted with the participation of only the interviewer and the interviewee and participants were identified by an identification code.

**Data analysis:** The interviews were tape recorded, transcribed and then, the transcriptions were reviewed for accuracy by some other writers of this article which were expert in fields of occupational therapy and/or qualitative researches. Each transcription was coded by hand, using the qualitative content analysis method (10). Using this method, each interview was coded line by line by interviewer who was qualified in qualitative research methods and a research assistant who was trained in this field, and themes were constructed. Interviews continued until no new themes were identified by the researchers. The use of peer checking process helped decreasing possible biases. Finally, two authors independently checked and reached agreement on the categories (peer checking). Quotations were chosen from the complete text to increase the credibility of the conclusions. The data analysis process was as follow:

### Data analysis process

First phase. Line by line coding

"Asks me regularly about our infant and because he is not allowed to come, he asks me regularly about her condition."

"Whenever I had any questions, I looked for the physician to ask my question from her. She answered me carefully"

"I tell him (my husband) ask his questions from nurses who are here and work in NICU"

- Second phase. Phrasing shorter codes
- asking question from couple about infant and her condition
- Looking for the physician to ask her questions
- Asking question from nurses who work in NICU
- Third phase. Developing final codes
- Asking question from couple
- Asking question from physician
- Asking question from nurse
- Fourth phase. Making and naming
- Asking question

Also, member checks confirmed whether or not interpretations of participants' statements were accurate. Ten of twelve participants had the opportunity to review their full transcript of their coded interview at the next visit, while two of them (both were parents) did not check their statements due to discharge from hospital and their reluctance with being followed. Prolonged engagement with participants and data helped researcher to achieve a better communication with participants and have a deep understanding of context.

**Ethical considerations:** Verbal and written informed consent was acquired from each participant according to a protocol approved by the research ethics committee of Iran University of Medical Sciences. Participants were informed that participation in this study is voluntarily and they could refuse to enter or withdraw from the study at any time. Interviews were conducted with the presence of only the interviewer and the

interviewee and participants were identified by an identification code to protect their privacy and confidentiality.

## Results

**Participant's characteristics:** A purposive sample of 12 participants (5 mothers, 4 fathers, 2 nurses, and 1 physician) participated in this study.

Nurses had master's degree in nursing and 5 to 7 years of experience working in NICU, and physician also was a subspecialty in neonatology with 18 years experience. Parents' age ranged between 20 and 42 years. Six of parents were first-time parents, two were second-time parents, and only one of them was third-time parents. The neonates were born with a gestational age between 28 and 36 weeks. The mean length of hospitalization in NICU was 34.5 days Table (1).

**Table 1.** Participants (infant) demographics

Gender	Role	Age	education	Infant Gestational Age at Birth (wk)	length of hospitalization (day)	Birth Rank
female	Mother	42	Diploma	32	29	Third
female	Mother	20	Diploma	36	21	First
Male	Father	30	Scholastic degree	31	24	First
female	mother	20	Pre university	34	28	First
Male	Father	28	Diploma	28	36	Second
female	mother	25	Diploma	31	29	First
Male	father	28	Bachelor	34	30	First
female	mother	29	Associate Degree	34	49	Second
Male	father	36	Master	33	17	First
female	nurse	-	Master	-	-	-
female	nurse	-	Master	-	-	-
female	physician	-	subspecialist	-	-	-

Analyzing the data and interviews of present study in order to compiling and identifying the Learning strategies of parents with premature infants resulted in three subcategories. These categories include codes which mostly are problem solving-focused strategies,

since show parents' efforts to address the problem of their infants' NICU admission. These are coping strategies that parents utilize to deal with their problems. The Learning strategies category and its subcategories and codes are illustrated in Table (2).

**Table 2.** Learning strategies of parents of premature infants, admitted in NICU

Category	Subcategory	Codes
Learning strategies	Asking question	- Asking questions from couple -Asking questions from physician -Asking questions from nurses
	Getting help	-Getting help from other mothers -Getting help from spouse
	Learning caring skills	- Learning feeding skills -Learning handling skills

### **Asking Question:**

One of subcategories of “Learning strategies” which parents and other participants reported was “*Asking question*”. This subcategory contains three codes: “*Asking questions from couple about infant and their condition*”, “*Asking questions from physician*”, and “*Asking questions from nurses*”. Parents struggle with the unknown, unfamiliar and potentially threatening environment of NICU. The high-Tech environment in NICU, infant's medical condition, and restriction in closeness and proximity to their infant are some of the most important stressors for them. They are confused and worried and do not know what do they do. In this stressful situation, being informed through asking questions gives them a sense of mastery and control over current condition and reduces their stress. One mother said:

*“Asks me regularly about our infant and because he is not allowed to come, he asks me regularly about her condition.”*

Parents ask the physician many questions about infant's condition. The information that physician gives them can help the parents feel better. One participant said:

*“Whenever I had any questions, I looked for the physician to ask my question from her. She answered me carefully”*

Asking question from nurses who worked in NICU is another way to gather information:

*“I tell him (my husband) ask his questions from nurses who are here and work in NICU”*

### **Getting Help:**

This subcategory of “Learning strategies” includes two codes: “*Getting help from other mothers*” and “*Getting help from spouse*”.

Getting help from others is a way to employ different experiences and help parents play their parental roles better:

*“We try to get help from friends and others to do something”*

### **One participant said:**

*“We get help from other mothers which are in NICU to help us”*

### **Learning Caring Skills:**

Learning caring skills from various sources leded parents to reaffirm their sense of self-efficacy and helped them to care their neonates with confidence. This subcategory include 2 codes: “*Learning feeding skills*” and “*Learning handling skills*”. A mother said:

*“I, my self, try to learn whatever they want to tell me way of fostering and these things as well, in order not to fall in trouble and learn everything.”*

### **The other participants said:**

*“I've learned all things related to premature infant. How to hug him and transfer him, and I'll try to learn every other things may be needs, to prevent falling in trouble.”*

### **Discussion**

The results of this study showed that mentioned strategies are solutions which parents use to have a sense of mastery and control over the critical condition. These strategies are methods which can empower preterm infants' parents.

The preterm infants' families have many different needs, so they seek for a lot of social and personal support during first few months of their child birth, until their abilities increase. These supports are useful for parents to face a number of their problems and help them to manage their stress (11). Relationship between family members is one of the most important supporting resources for these parents (12, 13). Younger et al. (1997) reported social support has a positive and direct correlation with mothers' mastery and an inverse correlation with depression after pregnancy in preterm infants' mothers (14).

The results of present study pointed out that participation in caring procedures and skill learning is necessary for parents. Also, according to the results of the present study which is supported with other studies, accurate and correct clinical information gathering is necessary for parents, because they use them for informed decision making and anxiety reducing. Asking question is a good basic way to gather information (15-17). Gooding and et al. reported family and friends can

help parents (17). This finding is consistent with present study. In the study of Lindberg et al, fathers expressed some points about importance of relationship with his wife and other parents in acquiring a good feeling (18).

Also, in the present study, parents used strategies like getting help and trying to learn caring skills in order to decrease their stress (19). This study showed that parents express importance of communicating and talking to spouse as a main factor in achieving tranquility and peace of mind. Furthermore, when they talk to other parents with the same situation, they can employ different experiences and play their parental roles better. Since parents do not have enough information and skills, getting help is one of their fundamental strategies they seek for resources to help and guide them. They look for it in all available resources in their context to feel protected. It seems that most available resources of help for Iranian parents are: their spouse, friends and family members, other mothers who are in the same situation, medical staff, and definitely God. Medical staff is a good and reliable resource in providing information, training skills, and making an empathic therapeutic relationship with parents. They have enough knowledge in their professional field they work in. But, finding of this study revealed that parents didn't get help from medical staff, probably due to lack of the either tendency or knowledge about the possibility of getting help from this source for the least. Moreover, it should be considered that nowadays, the number of hospital staff is limited and they are too busy with primary

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responsibilities that should undertake. As a result, they don't have enough time to present more helps to clients. In this study, it reported that because of lacking adequate formal and scientific resources of help, these parents use substitutions including getting help from spouse or even other mothers with similar situation. If parents receive incorrect or incomplete information about their infant, they will feel stress and anxiety(11). Since traditional resources of help including family and other nonprofessional persons may present incomplete or even wrong information to parents, medical team role in this area seems to be very important.

Results of this study suggest considering the sharing information with parents of premature infant as an important and valuable part of doing interventions on premature infant. It is also recommended to do some research on comparing the results of family-centered therapy v.s common (non-family-centered) methods of therapy.

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