

Being a Nurse in Pediatric Intensive Care Unit: A Qualitative Study

Konuk Sener, D.

Duzce University, Faculty of Health Sciences, Department of Nursing, Turkey

Abstract

Introduction: Pediatric Intensive Care Units are the units that provide a 24-hour uninterrupted service for the care and treatment of children at the age of 1 month to 18 years. Specialized, educated and experienced Pediatric Intensive Care Unit nurses have a significant role in maintaining lives of the children and achievement of the best results in their treatment. It has been reported that Pediatric Intensive Care Unit nurses constitute one of the most risky working groups due to a stressful working environment as well as their intense working rhythm.

Aim: This study was performed to determine working conditions, professional motivation, feelings and thoughts of nurses working in the Pediatric Intensive Care Unit at a university hospital in Turkey.

Method: The study was a descriptive study using qualitative methods. A total of six nurses working in the Pediatric Intensive Care Unit constituted the study group. Data were obtained using a demographic information form and a semi-structured qualitative interview form.

Results: Two main themes emerged at the end of the study. These themes were classified as feelings and thoughts of the nurses and their working conditions.

Conclusion: In the study, nurses stated that they were happy to work in intensive care since they loved children so much, and they experienced stress since their treatments were more complex and their clinical course changed very quickly. Besides, it was determined that weekly working hours were longer and working conditions were very intense due to insufficient number of nurses and their motivation was low due to the adverse physical conditions.

Keywords: child, nurse, pediatric intensive care unit, qualitative research, working conditions

Introduction

Pediatric intensive care units (PICU) are units that provide a 24-hour uninterrupted service focused on the care and treatment of children at the age of 1 month to 18 years (Kilic, Coban, Davutoglu, & Dalkiran, 2016). Patients who are followed up in these units are patients whose lives are under threat due to a failure in one or more organs and systems or due to performed surgical interventions and patients whose overall condition and vital signs should be closely monitored (Kilic et al., 2016; Oz, et al., 2015).

In recent years, the developments in the field of intensive care and the progress in advanced life support have made the role of healthcare professionals more complicated and have revealed their importance. One of the professionals who have utmost role and responsibility within this environment are nurses (Carnevale & Dagenais, 2014; Ozsoylu, Akyildiz, & Dursun, 2017). Considering the roles and responsibilities of the nurses, first, PICU nurses should meet physiological and care requirements of the child and continuously control and evaluate treatment devices. Second, in cases of problems, nurse should evaluate the importance of the event and should start an appropriate response. Thirdly, the nurse has the primary responsibility in providing patient

safety. Fourth, the nurse is responsible for maintaining a suitable environment in order to provide psychosocial adaptation of the child and the family. Fifth, the nurse works as an “assembler” in the collection of patient information (Carnevale & Dagenais, 2014).

Specialized, educated and experienced PICU nurses have a significant role in maintaining lives of the children and achievement of the best results in their treatment (Carnevale & Dagenais, 2014). However; nurses are exposed to significant stress and exhaustion due to the critical condition of the patients, inconstant and heavy working conditions, insomnia, fatigue, professional relationships within healthcare team, working in an environment that can become tense at any moment, a lack of appropriate clarity in professional authorization and responsibilities and due to adverse physical conditions of the institution in which they work (Aytekin & Yılmaz-Kurt, 2014; Basbakkal, Beytut, Muslu, Ersun, & Ozcelik, 2013; Bratt, Broome, Kelber, & Lostocco, 2000; Ozsoylu et al., 2017). Life-threatening crisis conditions, complicated technology, the responsibility of sudden decision-making, an overstimulating environment, dynamism and the presence of excess noise are among the stressors (Aytekin & Yılmaz-Kurt, 2014). Besides the stressful intensive care environment, working with children, who are a sensitive group of patients, and their families and the fact that the outcomes cannot always be good despite the intense use of advanced life support negatively affect motivation and job satisfaction of PICU nurses (Aytekin & Yılmaz-Kurt, 2014; Ozsoylu et al., 2017).

In the literature, it has been reported that PICU nurses constitute one of the most risky working groups due to the stressful working environment as well as their intense working rhythm. Working under heavier conditions compared to nurses in other departments decreases their self-confidence and their professional motivation. According to the results of previous studies, it was determined that exhaustion rates of PICU nurses were higher (Chuang, Tseng, Lin, Lin, & Chen, 2016; Oehler & Davidson 1992; Ozsoylu et al., 2017), they experienced intense stress (Bratt et al., 2000; Foglia, Grassley, & Zeigler, 2010) and their professional motivation (Foglia et al., 2010) and job satisfaction (Bratt et al., 2000; Foglia et al., 2010) were low. Job satisfaction of nurses who work with an intense working rhythm and their state of being happy, productive and active gain importance also in increasing the quality of their service (Basbakkal et al., 2013; Ucar, Aygin, & Uzun, 2016).

Aim

No study was found in the literature for determining the working conditions, professional motivation, feelings and thoughts of PICU nurses. Accordingly, this study was carried out to determine i) feelings, thoughts and attitudes, ii) professional motivation and iii) working conditions of PICU nurses.

Method

Design

This was a descriptive study using qualitative methods.

Sample

The sample of the study was composed of PICU nurses in a university hospital. The PICU had four beds and a total of six nurses worked there. Nurses worked on two shifts (8 am–4 pm and 4 pm–8 am). The total working hours of a nurse per week were at least 56 h. While two nurses (one was a

supervisor nurse) worked on the 8 am–4 pm shift, a single nurse worked on the 4 pm–8 am. The supervisor nurse did not implement patient care except for emergency cases.

Data collection tools

The data of the study were collected via the “Demographic Information Form” and the “Qualitative Interview Form”.

Demographic Information Form

Sociodemographic data including age, education level, marital status, number of children, and nurses’ work hours were obtained using a form based on a literature review (Basbakkal et al., 2013; Foglia et al., 2010; Kudchadkar, Beers, Ascenzi, Jastaniah, & Punjabi, 2016; Ucar et al., 2016).

Qualitative Interview Form

The semi-structured form to guide interviews included open-ended questions to identify participants’ feelings, thoughts, perceptions, and attitudes. It was based on a thorough review of the literature (Basbakkal et al., 2013; Bratt et al., 2000; Carnevale & Dagenais, 2014; Foglia et al., 2010; Kudchadkar et al., 2016; Ucar et al., 2016). In order to assess the content of the questions generated, opinions were taken of five faculty members who are experts in the field of pediatric nursing. The content was found to be suitable and several supplements were added in accordance with their recommendations. The order of the questions was determined by the flow of the interview.

Data collection

Data were collected through in-depth qualitative interviews. Appointments were arranged with the nurses at an appropriate time and place. The purpose of the study was first presented to potential participants. Consent was obtained after stating the approximate duration of the interview, explaining the reason for recording the interviews, and providing assurance concerning the confidentiality of all the interview data. The participants were instructed that they could turn off the recorder whenever they wanted during the interview. Observational notes about their behaviours and answers were recorded. The interview with each participant lasted nearly 60 minutes.

Data analysis

The data were assessed by thematic analysis. Written observational notes and verbal responses for each question in the semi-structured questionnaire were transcribed verbatim. Opinions and notes were crosschecked for compliance with the study aims; none were found to be irrelevant. Opinions were categorized according to their semantic similarities, and codes to represent these opinions were generated. The frequency of opinions for each code was indicated. The codes were grouped according to the integrity of their meaning, based on which themes were generated. To increase the reliability of the data analysis, researchers generated the codes and themes independently. Their data and the analyses were discussed. To ensure validity of the data, a panel comprising one expert and five study participants assessed the appropriateness of the codes and themes. The final form was generated after considering the panel’s views (Yildirim & Simsek, 2008).

Results

Demographic characteristics

The mean age of the nurses was 29.83 ± 0.2 years and two of the nurses were single and four were married. Two of the nurses had a master degree, two nurses had a bachelor degree and two nurses had a high school degree. Work experience in the PICU ranged from 4–15 years. There was not any ethnic difference between the nurses.

Major categories and subcategories identified

The results are presented under two main theme and subtheme headings that were generated at the end of the analysis.

Tab. 1 Themes and Subthemes

Theme	Subtheme
Feelings and thoughts of the nurses	<ul style="list-style-type: none">▪ Working with a child is very pleasant but very stressful▪ Being a nurse mother
Working conditions	<ul style="list-style-type: none">▪ Lack of a sufficient number of nurses▪ Physical environment▪ Team harmony

Theme 1: Feelings and thoughts of the nurses

This theme included feelings and thoughts of the nurses about working in the PICU.

Subtheme 1: Working with a child is very pleasant but very stressful

The nurses included in the study stated that they loved children very much, and working with children had pleasant, enjoyable and unique beauties. However; they also declared that they experienced stress since children were more sensitive, their treatment was more complex, their clinical course changed quickly and there were also losses.

...Helping children is very nice, it makes me happy to take care of them. It also makes me happy to see that they regain their health and are discharged from the hospital. Unavoidably we establish a bond with some children and we wish they do not go but they cannot stay in the hospital for a long time. (Nurse 1)

...I wanted to be in paediatrics since I like children very much. Working with children motivates me. I tolerate most cases more easily since they are children. It does not bother me that they pee and I change their diapers. (Nurse 2)

...It is different from adults, everything is more complex in children. Calculating drug doses and following up on their liquids makes me nervous. I am afraid of making a mistake since their clinical course changes very quickly even if there is a small dose error. (Nurse 4)

...Children's' crying and their physical condition push me so much, I get too sad. I cannot accept the loss when a child dies. When we perform resuscitation, I say "let's try a bit more, do not give up". (Nurse 5)

Subtheme 2: Being a nurse mother

The nurses who were interviewed stated that their feelings changed after they became mothers and they started being affected by illnesses of the children more. However, they declared that having more knowledge and experience had its advantages in meeting care needs of the children. Some of these statements were as follows:

...It was easier when I was single...but now I am affected more. After becoming a mother, I think of my child, I approach with maternal sensitivity more. I think as “What would I do if the child lying there was my child?” (Nurse 1)

...I would not choose pediatric intensive care if I were a mother. It would make me so exhausted in psychological terms. Maybe it would be the paediatrics department but I would not work in the intensive care. (Nurse 2)

...Mothers are more experienced in child care. I have difficulty in making crying child silent. However my nurse colleagues who are mothers can do so more easily, and they can make them sleep more quickly. (Nurse 5)

Theme 2: Working conditions

This theme included the problems that PICU nurses experienced concerning working conditions. All of the nurses included in the study stated that the most challenging situation for them while working in the intensive care clinic was “inappropriateness of the working conditions”.

Subtheme 1: Lack of a sufficient number of nurses

Nurses, who were interviewed, indicated that they experienced loss of performance due to lack of sufficient number of nurses and excess weekly working hours. They stated that they had difficulty especially during shifts on which they worked alone. Some of these statements were as follows:

...Sometimes I cannot change the diaper of a child by myself. Bathing and feeding is difficult when you are alone. (Nurse 2)

...We work alone on the shifts. I had four pre-discharge patients on my shift yesterday. I was too nervous (Nurse 4)

...We are together with the patients alone in this place for 16 hours. I have to call someone even when I go to the toilet. (Nurse 6)

.....We can care about children more if we do not work alone and if more nurses work. We can only do our job now. We could spend more time with children, draw pictures, play games, etc. But we do not have enough time. (Nurse 1)

Subtheme 2: Physical environment

All of the nurses included in the study expressed their discomfort led by the physical environment of the intensive care. They declared that they experienced problems since the available space was too small. Some of the statements were as follows:

.....Intensive care is too small. We experience difficulties in physical means. We bring mothers of some children into the intensive care. Then we cannot move comfortably inside. There is always an eye watching you. We cannot talk easily besides the mothers. Since the mothers hear everything, they share this with the mothers of other children. (Nurse 4)

.....Intensive care is a bit small. I wish it was a bit bigger and there would be a private place for us. There is no area for us except nurse desk. We do not have a place even for eating food. We are eating food at nurse desk secretly. We can only sit on the chairs. Especially at shifts, we want to lie down, but we cannot. (Nurse 2)

.....I want to run out of these walls in this small place, but I cannot. (Nurse 3)

Subtheme 3: Team harmony

All of the nurses, who were interviewed, declared that presence of a good team harmony in intensive care motivated them despite the difficulties in working conditions and their emotional loads. Some of these statements were as follows;

.....Our working conditions are very hard. What motivates me are my colleagues. I would not work here if I did not have their support. (Nurse 1)

.....Our team harmony is very good. We always support and help ourselves. (Nurse 2)

Discussion

Feelings and thoughts of the nurses

Intensive care clinics at hospitals are highly stressful environments due to the expectations for continuous emergency conditions, complications of high technology and follow-up for sudden changes in overall health conditions of the patients (Altinoz & Demir, 2017). More intense work in intensive care units compared to other departments, working in an environment that may become tense at any moment, the presence of a higher number of critically ill patients, professional relationships within healthcare team and time pressure lead to significant stress among nurses (Aytekin & Yilmaz-Kurt, 2014). Challenges concerning meeting the needs of children who have stress and critical disease at a high level, and their families affect professional satisfaction of nurses and decrease their motivation (Bratt et al., 2000).

When feelings and thoughts of the nurses about working in intensive care were examined in the study, it was determined that providing care for the children increased their motivation but they were affected by sensitive nature of the children, rapid change in their clinical course and their previous condition. It was seen that these feelings were experienced especially by the nurses who were mothers. Embracement of the children by the nurses is very important for them so that they can establish a healthy communication with the children as well as to feel professional job satisfaction by fulfilling their tasks. Nurses working in paediatrics should have characteristics such as love for children, showing attention, ability to communicate, being kind and patient and ability to stay calm (Buyuk, Rızalar, Gudek-Seferoğlu, & Oguzhan, 2014). When other studies regarding this topic were investigated, several different results were found. In the study by Buyuk et al. (2014) which was performed to determine child loving attitudes of the nurses working in adult and pediatric departments, it was found that the area where nurses worked did not affect their child loving attitudes (Buyuk et al., 2014). In the study by Kostak, Semerci, & Kocaaslan, (2017) it was determined that child loving levels of the nurses were higher if they worked in the pediatric service and the number of the children was higher (Kostak et al., 2017). In this study, these feelings were experienced by the nurses who had children more intensely; and the reason was the fact that they could approach other children and their families with empathy and thus, they had more difficulties in emotional terms.

Difficulties in working conditions

A healthy working environment requires suitable personnel, interpersonal relationship, sufficient communication, right cooperation, effective decision-making and leadership. Nurses who work with patients long-term appear as the healthcare professionals who are mostly affected by adverse conditions in the working environment. Intensive care units are private and isolated departments of hospitals with critically ill patients, high mechanical equipment and rapid patient circulation. Nurses who work in these units, work in a fast and intense rhythm (Altinoz & Demir, 2017; Basbakkal et al., 2013).

When working conditions of the nurses were examined in the study, it was observed that weekly working hours were more, the number of the nurses was low and they worked under very intense working conditions. Nurses declared that *“they got too tired since they worked alone on shifts and they experienced intense stress”*. This finding of the study shows a similarity with the results of other studies. In the literature, it was found that working conditions of PICU nurses were very intense (Bratt et al., 2000; Chuang et al., 2016; Foglia et al., 2010; Oehler & Davidson 1992; Ozsoylu et al., 2017).

The number of PICU nurses who are employed per bed in the USA is between 1:2.9–3.2 on average (for instance; 18 nurses for a unit including 6 beds) and the ratio of nurse per patient is 1:2 on average (one nurse for 2 beds). In Europe, the recommended number of intensive care nurses is 6 per bed and the ratio of nurse-to-patient is recommended as 1:1. The total number of nurses employed per bed in Turkey was calculated as 1:0.9 and the mean ratio of nurse-to-patient was calculated as 1:4.5. It seems that there is a severe lack of nurses in the country of this study. The total number of nurses employed as well as the ratios of nurse-to-patient are lower than the recommended ratios and they seriously hinder and endanger patient care (Cocuk Acil Tip ve Yogun Bakim Dernegi, 2006).

Nursing human resources planning should be made very carefully in order to maintain patient care in hospitals in a better, safe and uninterrupted way. Within the last 15 years, there have been numerous studies addressing the contributions of nurses to patient care and revealing the relationship between the number of nurses and patient outcomes (Pearson et al., 2006; Turkmen, 2015; Van den Heede, Clarke, Sermeus, Vleugels, & Aiken, 2007; Wilson, Bremner, Hauck, & Finn, 2011). These studies showed that patient outputs that were accepted as indicators of quality patient care were directly related to the number of nurses. These outputs were listed as deep vein thrombosis, shock/cardiac arrest, delay in resuscitation, metabolic imbalance, pulmonary failure, pressure wounds, central nervous system complications, upper gastrointestinal haemorrhage, medication errors, postoperative cardiopulmonary complications, liquid loading, unplanned extubation, peripheral intravenous infiltration, complaints of patients and relatives, mortality and longer duration of hospitalization besides infections, such as hospital infection rate, hospital-associated sepsis, postoperative wound infections and central venous catheter associated infections (Pearson et al., 2006; Turkmen, 2015; Van den Heede et al., 2007; Wilson et al., 2011). Accordingly, it is suggested that an improvement will be observed also in patient, nurse and organizational outputs when the number of nurses and the working environment are improved.

When team harmony in the working environment of the nurses was evaluated in the study, it seemed that they had a compatible team communication and this situation increased their motivation. Compatible teamwork and suitable working environment were found to be associated with a high job satisfaction (Collette, 2004; Kalisch, Lee, & Rochman, 2010). Mutual respect relationship within teamwork increases motivation of the nurses and enhances their job satisfaction.

Communication problems within teamwork, lack of autonomy and/or respect shown by managers for nurses are among the greatest stress factors in the working lives of nurses (Mahon, 2014). In the study by Bratt et al. (2000), it was determined that work stress and job satisfaction of PICU nurses were significantly affected by nurse-physician cooperation, relationships between nurse-patient and relatives, attitudes and behaviours of nurse leaders, team harmony and institution policies (Bratt et al., 2000). In the study by Foglia et al (2010), it was reported that nurses did not want to work at intensive care and wanted to quit due to the negative attitudes of their managers/team leaders, tense and stressful environment of PICU working environment, insufficient resources and the multidimensional and complicated environment medium (Foglia et al., 2010).

Another finding in the study was that nurses experienced problems and their motivation decreased due to poor physical conditions in their working environment. Nurses stated that *“their working area was too small, they could not move comfortably and they did not have a living space where they could meet their own needs”*. The design of intensive care units should be done as including necessary arrangements in order to provide an intensive care service at an avant-garde level (Ozbek-Yazici & Kalayci, 2015). It is thought that separate areas should be included in a unit for some other functions besides the part of the patients. While the total area of the unit is planned, some arrangements should be done for such areas; and the total area of the unit should be considered as 2.5fold of the patient care area. For instance, the patient care area should be calculated as $6 \times 20 \text{ m}^2 = 120 \text{ m}^2$ for a unit including 6 beds; and the total area of the unit should be planned as at least $120 \times 2.5 = 300 \text{ m}^2$ (Koroglu et al., 2006). It is seen that similar findings were obtained in other studies regarding this topic. It has been reported that the presence of adverse environmental conditions in the hospital environment (insufficient lightening, noise, a small size of the environment, and ineffective heating), a lack of materials used and a lack of work safety resulted in problems in the working lives of the nurses and decreased their motivation (Kudchadkar et al., 2016; Mahon, 2014; Ozbek-Yazici & Kalayci, 2015).

Conclusion

The results of this study present working conditions, feelings, thoughts and professional motivations of PICU nurses in a university hospital in Turkey. At the end of the study, two main themes emerged. These themes were classified as feelings and thoughts of the nurses and their working conditions. In the study, nurses declared that they were happy to work in intensive care since they loved children so much but they experienced stress since children had a sensitive nature and their clinical course changed very rapidly. Moreover, it was determined that their motivation was low since they had longer weekly working hours due to the lack of sufficient number of nurses and they had adverse physical conditions.

PICU nurses at university hospitals in Turkey work under very intense working conditions due to longer weekly working hours, a lack of sufficient number of nurses and the presence of an excess number of patients. In order to prevent this situation, it is required to create human resources planning for the nurses and minimum standards should be developed for nurse-to-patient ratios and they should be implemented. A universally accepted measure for this ratio is one nurse per two patients at maximum. The criteria for patient admission to the unit should not be whether there is a free bed, it should be whether there is a nurse who would take care of that bed. In addition, it is suggested to make physical conditions of the PICU more suitable, to increase training opportunities for the nurses and encourage courses and conferences.

Ethical Aspects and Conflict of Interest

The study was conducted in accordance with the Declaration of Helsinki for experiments involving humans. Written consent was obtained from the Hospital Management. Written informed consent was obtained from the nurses who participated voluntarily. Nurses were informed that interview data and information regarding their personal identity would be kept confidential.

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Dr. Dilek Konuk Sener

Duzce University, Faculty of Health Sciences, Department of Nursing
dilekkonuk@duzce.edu.tr