

# Iranian Paediatric Nurses Experience of Nursing Error: A Content Analysis

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## Abstract

Nursing error has complex and vague dimensions and paediatric nurses' experience is different from the other nurses. Therefore, this study was conducted to illuminate Iranian paediatric nurses' perception of nursing error. Our study designed is qualitative content analysis. Semi-structured interviews were performed with 8 paediatric nurses in three hospitals. Filed notes were documented. Data were analysed using manifest qualitative content analysis by Bernard's theory. Five themes were obtained from interviews and field notes: 1) damage; 2) careless; 3) wrong thinking/action; 4) relative/absolute situation; 5) Compulsory/Optional Situation. Iranian paediatric nurses perceive nursing error as situations attributed in wide spectrums that damage is heart of them. Two new aspects of nursing error presented in this study was wrong thinking and normalisation of errors (in Compulsory/Optional Situation). Our results show the need of more research and education attention to this issue.

## Key words

Content analysis; Error; Medical errors; Nursing

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## Introduction

Nursing is an ethical profession,<sup>1</sup> and assistance to people in a vulnerable situation is one of the main tasks of nurses;<sup>2</sup> however, errors endanger this task. Patient safety is a serious global public health issue. In 2002, WHO member states agreed on a World Health Assembly resolution on patient safety.<sup>3</sup> So any health system tries to decrease error to reach patient safety. The cost of nursing errors is imposed on nurses, patients and their families, the health system, and professionals who are involved;<sup>4</sup> nursing error has to be considered as a phenomenon with irreparable damage for patients. These injuries are variable, from a minimum of wasted time and efficacy to discomfort, injury, or death.<sup>5</sup>

Error statistics in health systems are high<sup>5</sup> and these statistics are also affected by environmental situations and error definition. Paediatric wards have more challenges due to nursing errors. The nature of paediatric care differs from adult care and the care process is more complex in children.<sup>2</sup> Therefore, some errors are more common in paediatric units. They have high rate of error incidence.<sup>6</sup> Caring in these wards is more specifically and medical and nursing errors are more incident.<sup>7</sup> Thus paediatric nurses' perception about nursing error is different by other health care providers and nurses.

A key component for examining and improving patient safety is error reporting<sup>3,8</sup> but like other medical errors, nursing errors tend to be underreported.<sup>9</sup> One issue to disclosure of errors is ambiguity in error definitions and perception of nurses about it.<sup>10</sup> Error is a complex concept by vague dimensions and nurses involvement in error need to clarification.<sup>11</sup> National standards for the profession in each country are different, and this introduces nursing error as a contextual concept.<sup>12</sup> Paediatric nurses work in different socio-cultural context and perception of them about nursing error is different by other nurses and need to explore.

Paediatric nurses due to paediatric wards characteristics involve by nursing error more than other nurses. Children are more vulnerable to medical errors.<sup>13</sup> For example, due to children's low weight, drug dosage errors result in more severe poisoning in children. Due to issues such as poor communication skills, greater fear, and lower ability to understand their circumstances in children compared to adults, paediatric nurses' experience of nursing errors is distinct and unique. Therefore their experiences are valuable to nursing error definition.

Nurses perception of nursing error can affect their practice.<sup>14,15</sup> Nurses do and repeat practice they perceive it correct. Individual interpretation of error occurrence is an important component to reaction of nurses to errors<sup>16</sup> and learning from errors at work.<sup>17</sup> Also nurses perception about nursing error is dependent on norm definition and standard indicators in each context.<sup>12,17</sup>

Previous studies on perception of health care provider about error generally focused on medical errors not nursing error as an independent concept<sup>18</sup> or didn't focus on Iranian paediatrics nurses perception of nursing error.<sup>15,19-21</sup> Due to importance of nursing error as an independent concept and lack of information and context bound characteristics of it, this study aims to answer this question:

What is perception of Iranian paediatrics nurses about nursing errors?

Qualitative approach is the best to explore experience and perception of participants about context bound concepts.<sup>22</sup> Therefore, to answer this question qualitative content analysis chose as study research methodology.

## Methods

### Design

This study conducted as a qualitative content analysis.

### Setting and Participants

Iran is a country in Western Asia. With 75.14 million inhabitants, Iran is the world's 17th most populous nation. 99.4% of peoples are Muslims<sup>23</sup> and Iran is home to one of the world's oldest civilizations. Nurses usually are employed in hospitals in the Iranian context.<sup>24</sup> Therefore paediatric wards in three governmental hospitals were chosen as a field of study. Nursing error is a nursing concept; therefore, paediatrics nurses as persons most affected by nursing error were selected as participants to purposeful sampling. Interviews were conducted with nurses who had the experience of committing an error, at least one year of clinical experience in the paediatric ward, were performing clinical work at the time of the study, were Iranian, and had at least a bachelor degree in nursing (Table 1).

### Data Collection

Researcher referred to paediatric clinical departments. The importance of research described for nurses. Semi-structured interviews in prior synchronised time were conducted to data collection. Researcher explains the ethical considerations and participants fill informed consent form.

**Table 1** Demographic characteristics of nurses participated in the study and their interview duration

No	Age	Gender	Work (year)	Education	Interview duration (minutes)
1	51	Male	30	Master	36
2	33	Female	12	Master student	33
3	34	Female	7	Bachelor	25
4	31	Female	8	Bachelor	26
5	30	Female	8	Bachelor	14
6	32	Female	9	Bachelor	15
7	26	Female	2	Bachelor	25
8	27	Female	2.5	Bachelor	25

Participants were asked to mention one example for nursing error based on his/her experiences and express attributes distinguishing it from other situations. Scheduled open ended questions such as these used in interviews: Did you make a nursing error? Please talk about it. If needed follow up questions asked: Why did you name it nursing error? Overall, the researcher found 20 shifts in line with emerging data in clinical departments. Field notes were documented. Data collection and data analysis were performed simultaneously. Excessive workload of nurses led to problems in their participation. For this reason, the interviews, organised in predefined and limited duration. Researchers to solve this problem attempted to analyse each interview accurately and then did another interview to reduce interviews duration. All participants preferred that the interviews be conducted on one period of time. Duration of each interview has mentioned in Table 1. The interviews were audio recorded with the permission of the participants. The audio recordings were coded and preserved in order to maintain confidentiality and transcribed immediately. All interviews conducted and transcribed verbatim by one researcher. Researcher, who did interviews, participated in data analysis and peer check and member check of finding. Interviews continued (approximately 6 months July till December 2014) until data saturation. Finally 8 nurses participated in individual interviews.

#### **Data Analysis and Trustworthiness**

Data was analysed using manifest qualitative content analysis by Bernard's theory.<sup>25</sup> Rules of coding were determined. Coding was based on the main question. Research team divided in two teams. The interviews were reviewed to find meaning units and coded separately by two individuals (the interviewer and another researcher). The codes were discussed, and consensus was reached through obtaining the opinion of the supervisor. The aim was to reach a common understanding of codes and classifications. Each interview was separately analysed in each group, and then, coding scheme was evaluated and discussed. Coding scheme was used to achieve comprehensive themes. The codes were classified on the basis of conceptual similarity in the categories, and 5 abstract themes were obtained from categories. The categories were also reviewed repeatedly to make sure that the results show the manifest content of the data. Lincoln and Guba (1986) criteria for trustworthiness used to evaluate data.<sup>26</sup> Audit trail and member check and peer check was done in each and in end of analysis process.

#### **Consent**

"All authors declare that 'written informed consent' was obtained from the nurses. A copy of the written consent is available for review by the Editorial office/Chief Editor/ Editorial Board members of this journal."

#### **Ethical Approval**

"All authors hereby declare that all experiments have been examined and approved by Medical Ethics Committee of University of Social Welfare and Rehabilitation Sciences (number: USWR.REC.1392.61) and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki."

### **Results**

The findings were expressed as five themes: 1) damage (with two categories: irreparable/negligible damage, and imminent/probable damage); 2) careless; 3) wrong thinking/action; 4) relative/absolute situation; 5) Compulsory/Optional Situation (with two categories: unconscious/conscious and normalisation).

#### **Damage**

This theme has been proposed as the main focus of study participants. In fact, damage is the heart of all themes, and the most distinctive feature of the nursing error that participants expressed.

##### **• Irreparable/Negligible Damage**

In this category, participants stressed about the traumatic future of nursing error. This damage has a wide range from damages that they cannot compensate to damages that it can be neglected, and even, "*it does not matter*" for patient. Participants emphasized damages that harm or threaten the life of patient. In other words, when the nurses were asked to talk about their or colleagues' nursing errors, the first thing that they spoke were events that endanger the life of patients. A participant said: "*I made a mistake in insulin units, and because of it the patient's life was in danger.*"

In this range, physical injuries are more notable to nurses. This spectrum is extended from threat to patient's life as irreversible damage till mental and spiritual damages as negligible damages that occur as a result of nursing errors. An example for the participants experience is mentioned:

*"I think, any kind of damage is important; but physical injury is more important to consider. First, we are more concerned about patient's life. In fact we have no time for mental and spiritual damages..."*

Participants classified damages according to their beliefs and experiences and decide which error is classified as a major or small error with respect to its effect. In fact, the nurses interpreted greater damage as greater nursing error.

A participant stated:

*"From this perspective, some damage is irreparable and some not. Suppose that, for example, in patient education I say some of the points very briefly or never say... this is a small nursing error but sometimes there are errors that cause physical injury to my patient, or cause patient death. These are big nursing errors."*

Another important point is that participants did not express any harm to patient as a compensable injury, and on the contrary of irreparable damage referred to negligible damage. A participant stated:

*"In my opinion, even in my life, any error, small or big it has its effect. It may seem negligible but not to be denied, it does not compensate."*

- **Actual/Potential Damage**

Actual or potential is another aspect of damage was presented by the participants. Nurses divided errors into two categories: errors that were identified damages and errors that were not found their damages if have not corrected or by chance. However, they stressed both ends of the spectrum is a behaviour termed nursing error. A participant stated:

*"If I had done it, certainly, the patient was dead. He did not respond to CPR. That is error..."*

And another participant said:

*"Sometimes you can get lucky, and sometimes it may appear. Also, I think it is error."*

- **Careless**

Some participants believed although there may be many reasons for the occurrence of the error, but ultimately, the error was due to inaccuracy. Any careless that may adversely affect the patient's health they called nursing error. A participant stated:

*"Well, environmental conditions will lose focus. Sometimes, a series of all other factors affect accuracy. Well, these impacts. Ultimately, it comes down to your attention and care. Generally, the accuracy is the main issue."*

The nurses had no justification for its negligence, and entirely consider their culpability. Another participant said:

*"I should use the right scissors. The wrong is wrong. If I were highly accurate I would not do wrong."*

- **Wrong Thinking/Action**

Participants noted a large range of errors in thinking and performance. Some of the participants stated that in addition to wrong performance, even wrong thought could be nursing error. They considered a wide range of wrong thinking/belief/idea and wrong action/behaviour by the nurse as nursing error. A participant stated:

*"In short, she did not accept that she also might be wrong. This idea itself is nursing error!"*

- **Relative/Absolute Situation**

Participants did not agree about nursing error being relative or absolute, and presented it in a spectrum. Some participants offered a clear and absolute definition of the nursing error as:

*"I say using the wrong device in the wrong situation is nursing error! If it has an adverse affect or if it does not, it may or may not have the possibility of damage, In general, wrong is wrong!"*

At the same time, the relative perceptions of nursing error were presented. Some participants believed anything that is in conflict with their beliefs initially were introduced as an error. These beliefs are the result of scientific principles or practice experiences. This is not necessarily limited to very complex procedures and even may include a simple practice. Any action which is not based on prior nurse knowledge and is aimed to change them will be considered nursing error. A participant stated:

*"I think my own way is the right way. Now another person does other methods. I say it is not true!... Yeah, I think this is a mistake. Someone coming and bringing a new belief is error in my view."*

Some participants felt the effects of time, working conditions, the philosophy and emphases of organisation on the error perception. A participant stated:

*"According to the conditions of work, crowded wards, or ... I didn't have enough time then if I didn't do mouthwash is not error."*

- **Compulsory/Optional Situation**

- **Unconscious/Conscious**

Participants noted nursing errors may occur consciously or unconsciously. This means that sometimes the

performer assures that the erroneous nature of the act that there is no better choice in this field. There are errors that the performer knows about them despite the knowledge it offers. The participant stated:

*"They prescribed a strong sedative rather than mild sedative that the doctor had prescribed for the baby. I see that I do consciously, which is detrimental to the patient and the system. There are also other kinds of errors..."*

- **Normalisation**

The error in the long term can become a habit, and if the doer has another good choice, she/he again selects the wrong function. In these cases, participants refer to the intentional or unintentional errors instead of the word conscious and unconscious.

This kind of behaviour and beliefs in the viewpoint of participants was included as nursing error, and always participants were highly regarded as intentional nursing errors and there are also the researcher's observations.

## Discussion

It is important point in this study that nursing error is addressed in the nursing profession and in this respect, paediatric nurses. Nurses are a large group of health care providers and provide direct care for patients and have unique perception about each situation. Paediatrics nurses also work in different socio-cultural condition. All participants were familiar with the concept and had no conflict about the importance and usefulness of the concept. Participants spoke with some confusion on the definition of this concept.

The participants expressed damage as the most prominent feature of nursing error. Nursing students perception of error in previous study presented it as conditions lead to life threaten to patients<sup>10</sup> and the first definitions of nursing error in the literatures were definitions based on outcome.<sup>27-29</sup> In the literatures some definitions mention actual or potential damages<sup>11,30</sup> but declaration of irreparable damages in opposite of negligible damage is new finding that presented in this study by participants.

Wrong thinking as a nursing error was not presented directly in the literature. Literatures mentioned error as a behaviour or action.<sup>7,15,17</sup> They focused on commission or omission of care plan.<sup>7,11,17,31</sup> This theme was noted as a first new aspect of nursing error that Iranian nurses independently

expressed. They expressed regardless of the damage, wrong thinking (e.g., believed to be immune from error) also considered a nursing error. This aspect of nursing error is supported by Islamic believe of *"Actions are but by intentions and every man shall have but that which he intended"* [Prophetic Hadith].<sup>32</sup>

Reason's human error model based on cognitive faults<sup>11</sup> and supports careless theme. Literatures mentioned goal oriented definitions of nursing error<sup>17</sup> or considered it as cognitive fault<sup>33,34</sup> point to careless theme in present study.

Absolute/relative aspect of nursing error comprehensively is consistent with critical care nurses viewpoints in Kurdistan. They explained nursing error as an unavoidable issue, lack of congruence with standards, doing extra-nursing tasks and giving care against the agreed-upon routines.<sup>15</sup> All of them are absolute or relative issues. As well as this theme has covered by some medical/nursing errors definitions that based on aim or context and standards.<sup>17,33</sup>

In the literature error is defined as unintended behaviour.<sup>11,29</sup> Second new aspect of nursing error presented in this study was the category of normalisation in this theme. This sub-category refers to errors that are common to perform. In other words, over the long term these errors wear the cover of OK, even they were not judged again. This type of nursing error (that we termed it "nested errors") requires further investigation and research. Research about types, causes and dimension of nested errors is necessary to decrease and eliminate them. Nurse practitioners and students must be aware of this kind of errors and should attempt to avoid them.

## Conclusion

This article presented Iranian paediatrics nurses' perception of nursing error and emphasized new aspects of it. The essential point in the participant's perception is damage, and it is a threat to the patient's life. All of themes are considered along a spectrum that at the heart of all is damage. In fact, as seen in filed notes, Iranian nurses by their experiences define nursing error by pay attention to damage and consider it thinking or action and as a concept that is absolute or relative, mandatory or optional. "Nested errors" and wrong thinking is new aspects of nursing error in paediatrics nurses in Iran. Importance of nursing error concept and some result of this study as normalisation of nursing error in practice shows necessity of health care system attention to this issue.

## Declaration of Interest

The authors have no conflict of interests to declare.

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