



# Intuition in Iranian pediatric nurses: A cross sectional study

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## Abstract

**Background:** Intuition is one of the key factors in decision-making leading to timely recognition of problems and quality care.

**Objectives:** The purpose of this study was to determine the extent of intuition and the factors influencing it in pediatric nurses.

**Methods:** A cross-sectional study was conducted in 2020 with 100 pediatric nurses working in hospitals of Bandar Abbas, Iran. Smith Intuition Instrument was used to collect data. Descriptive statistical methods, t-test, and analysis of variance were used for data analysis.

**Results:** Most nurses (59%) demonstrated moderate use of intuition whereas the others (41%) showed high use of intuition. Nurses with less than 10 years of work experience and those working in pediatric intensive units scored significantly higher on the reassuring feelings subscale ( $P < 0.001$ ).

**Conclusion:** The pediatric nurses' intuition was appropriate. Nurses are encouraged to confidently use their intuition without fear of blame in the difficult and sensitive situations of pediatric care.

**Keywords:** Decision-making, Intuition, Pediatric Nursing.

## Introduction

Pediatric nurses' clinical decisions are usually based on analytical reasoning using observable data, but in critical situations, they may react instantly to the child's condition based on their intuition.<sup>[1]</sup> Intuition combines the nurses' knowledge and experience with knowledge gained from communication with the patient or family, resulting in a level of concern that requires immediate action.<sup>[2]</sup>

Prior knowledge, cultural and educational background, mental state, life experiences, work environment, and communication with patients and colleagues affect nurses' clinical performance and decisions.<sup>[3]</sup> To understand the intuitive approach to decision-making, nurses must first identify the use of intuition in their practice.<sup>[4]</sup> Some studies examined the intuition of nurses working in adult wards,<sup>[5]</sup> emergency departments,<sup>[6]</sup> intensive care units<sup>[7]</sup> and child abuse settings.<sup>[8]</sup> However, no studies has investigated the use of intuition in Iranian pediatric

nurses. A study also reported that nurses are not fully aware of how they use their intuition in nursing.<sup>[9]</sup>

## Objectives

The objective of this study was to determine the extent of intuition and the factors influencing it in pediatric nurses.

## Methods

### Design and participants

This cross-sectional study was carried out using the census method on 157 nurses working in the pediatric wards of Bandar Abbas (Khalij e Fars and Pediatric) hospitals, Iran, in 2020. Inclusion criteria were working in pediatric wards, having at least a bachelor's degree in nursing, having at least 1 year of experience in pediatric wards, and inclination to participate in the study. Finally, 100 nurses who met the above criteria participated in this study.

### Data collection instruments

The 18-item Smith Intuition Instrument (SII) was used to measure intuition. The SII includes four dimensions, namely spiritual connection, reassuring feelings, physical sensations, and bad feelings. All items are scored on a Likert scale from “often: 1” to “never: 5,” with total scores ranging from 18 to 90. Scores of 18-42, 43-66, and 67-90 represent low, moderate, and high intuition, respectively. The SII has been shown to be a valid and reliable instrument, and its reliability coefficient was reported to be 0.89.<sup>[10]</sup> In the present study, the Cronbach's alpha of the SII was estimated to be 0.744. The researcher visited the hospitals, found eligible participants, briefed them on the study aims, provided them with copies of the questionnaires, and asked them to complete the questionnaires in their free time, in a private setting, or at home, and return them to the researcher on his next visit.

### Statistical analysis

The continuous variables were expressed as the mean $\pm$ SD, and the categorical variables were presented as a percentage and frequency. Descriptive statistics were used to describe the data. Depending on the normality of the data, Student t-test, Mann-Whitney U test, analysis of variance, and Kruskal-Wallis test were used to compare means between subgroups of participants. Data were analyzed using SPSS v.16 (SPSS Inc., Chicago, IL, USA). P values <0.05 were considered significant.

### Ethical consideration

This research was approved by the ethics committee of Semnan University of Medical Sciences (IR.SEMUMS.REC.1398.222). The participants were assured of confidentiality and no need to write their names in the questionnaire. The study was conducted in accordance with the Declaration of Helsinki. All participants signed an informed consent form.

### Results

All nurses were female, 90% had a bachelor's degree, and 59% were formally employed. Most nurses (44%) worked in pediatric intensive care units and 19% in pediatric emergency departments [Table 1]. The mean age of the participants was  $33.75 \pm 6.61$  years, and the mean work experience in pediatric wards was  $8.48 \pm 6.50$  years.

Most nurses (59%) demonstrated moderate intuition use, whereas the others (41%) showed high intuition use. Nurses with less than 10 years of work experience scored significantly higher on the reassuring feelings subscale ( $P<0.001$ ). In addition, nurses who worked in the

Intensive care units (ICUs) scored significantly higher on the reassuring feelings subscale than those who worked in general and emergency wards ( $P<0.001$ ). No significant difference was found between the mean scores for intuition among nurses with different levels of education, marital status, age groups, and employment status ( $P>0.05$ ) [Table 2].

**Table 1.** Frequency (%) of demographic characteristics in pediatric nurses

Variables	Frequency (%)
<b>Education level</b>	
Nursing diploma	4 (4)
Bachelor's degree	90 (90)
MSc or PhD degree	6 (6)
<b>Marital status</b>	
Single	19 (19)
Married	81 (81)
<b>Ward</b>	
General pediatric wards	37 (37)
Pediatric intensive care units	44 (44)
Pediatric emergency	19 (19)
<b>Number of children</b>	
0-1	70 (70)
2-6	30 (30)
<b>Job experience</b>	
10 and lower	75 (75)
Over of 10	25 (25)
<b>Type of employment</b>	
Non-formal	41 (41)
Formal	59 (59)
<b>Age group, years</b>	
<30	38 (38)
31-40	46 (46)
>41	16 (16)

### Discussion

In the present study, pediatric nurses used intuition at moderate and high levels. A previous study also reported that nurses used intuition at a moderate level.<sup>[6]</sup> Due to the complex nature and unique symptoms of pediatric illnesses, intuition plays an important role in making clinical decisions about them.<sup>[8]</sup> Studies on pediatric nurses' intuition are very limited, but the sensitive nature of pediatric wards signifies the need for nurses with high levels of intuition.

Nurses with less than 10 years of work experience were found to score higher on the reassuring feelings subscale. This finding contradicts Benner's novice-to-expert theory. However, some studies, do not assume that intuition necessarily depends on experience, although experience

appears to increase the value of intuition.<sup>[5,7]</sup> The contradictory findings can be attributed to the inadequacy of Iran's educational programs in strengthening intuition.

At the same time, it should be noted that there is no linear and unidirectional association between work experience and intuition.

**Table-2.** Comparison of the mean scores of intuition and its dimensions according to the demographic characteristics of pediatric nurses

Demographic characteristics	Intuition and it's dimensions				
	Bad feelings	Physical sensations	Reassuring feelings	Spiritual connection	Total scores
<b>Education levels</b>					
Nursing diploma	9.25±1.50	12.50±6.40	24.25±0.95	20.25±5.12	66.25±11.55
Registered nurse	9.81±2.95	11.93±3.64	22.92±2.96	21.47±3.39	66.14±7.65
MSc and PhD	8.16±1.60	13.66±3.44	25	22±3.34	68.83±2.92
P-value	0.38 <sup>c</sup>	0.53 <sup>c</sup>	0.16 <sup>c</sup>	0.72 <sup>c</sup>	0.70 <sup>c</sup>
<b>Marital status</b>					
Single	9.42±3.38	11.68±4.73	23.57±2.63	22.42±3.80	67.10±8.15
Married	9.75±2.74	12.14±3.48	22.98±2.92	21.23±3.33	66.12±7.49
P-value	0.65 <sup>d</sup>	0.62 <sup>d</sup>	0.42 <sup>d</sup>	0.17 <sup>d</sup>	0.61 <sup>d</sup>
<b>Ward</b>					
General pediatric wards	10.24±3.04	12.05±3.24	22.10±3.28	21.13±3.48	65.54±6.55
Pediatric intensive care units	8.95±2.88	12.06±4.39	23.93±2.06	21.75±3.64	66.70±8.86
Pediatric emergency	10.31±2.08	12.05±3.06	23.10±3.10	21.42±2.91	66.89±6.40
P-value	0.07 <sup>c</sup>	0.99 <sup>b</sup>	<0.001 <sup>b</sup>	0.72 <sup>c</sup>	0.74 <sup>c</sup>
<b>Number of children</b>					
0-1	9.52±2.90	11.81±3.49	23.17±2.91	21.64±3.55	66.15±7.26
2-6	10.06±2.77	12.63±4.24	21.03±3.17	21.03±3.17	66.66±8.40
P-value	0.39 <sup>d</sup>	0.31 <sup>d</sup>	0.7 <sup>d</sup>	0.41 <sup>d</sup>	0.76 <sup>d</sup>
<b>Job experience</b>					
10 and lower	9.52±2.82	12.12±3.72	23.58±2.66	21.74±3.47	66.97±7.57
Over of 10	10.20±2.98	11.88±3.82	21.64±2.99	20.60±3.25	64.32±7.42
P-value	0.3 <sup>d</sup>	0.94 <sup>a</sup>	<0.001 <sup>a</sup>	0.15 <sup>d</sup>	0.13 <sup>d</sup>
<b>Type of employment</b>					
Non-formal	9.75±2.84	11.82±3.83	23.26±2.96	21.63±3.71	66.48±7.96
Formal	9.64±2.89	12.22±3.68	22.98±2.81	21.33±3.26	66.18±7.38
P-value	0.84 <sup>d</sup>	0.6 <sup>a</sup>	0.4 <sup>a</sup>	0.67 <sup>d</sup>	0.84 <sup>d</sup>
<b>Age group</b>					
<30	9.78±2.71	12.47±3.52	23±3.14	21.84±3.36	67.10±7.84
31-40	9.45±3.05	11.56±3.68	23.60±2.37	21.50±3.39	66.13±7.22
>41	10.12±2.75	12.50±4.38	21.87±3.24	20.43±3.75	64.93±8.22
P-value	0.70 <sup>c</sup>	0.38 <sup>b</sup>	0.12 <sup>b</sup>	0.39 <sup>c</sup>	0.62 <sup>c</sup>

<sup>a</sup> Mann-Whitney U test, <sup>b</sup> Kruskal Wallis test, <sup>c</sup> Analysis of variance, <sup>d</sup> t-test

Nurses with less than 10 years of work experience were found to score higher on the reassuring feelings subscale. This finding contradicts Benner's novice-to-expert theory. However, some studies, do not assume that intuition necessarily depends on experience, although experience appears to increase the value of intuition.<sup>[5,7]</sup> The contradictory findings can be attributed to the inadequacy of Iran's educational programs in strengthening intuition. At the same time, it should be noted that there is no linear and unidirectional association between work experience

and intuition.

In this study, nurses working in pediatric ICUs scored higher in the reassuring feelings subscale. An earlier study found that ICU nurses use intuition when they are in new and complex situations that require making quick and independent decisions.<sup>[11]</sup> However, some studies contradict our findings.<sup>[6,12]</sup> The difference between the studies maybe attributed to the different conditions of pediatric and adult intensive care units.

In the present study, no relationship was found between

nurses' intuition scores and their education levels, marital status, type of employment, and age. Because this is a cross-sectional study, it is difficult to establish a causal relationship between intuition and other variables. In addition, we used self-reported instruments. Therefore, the results may be at risk of social desirability bias.

## Conclusions

Pediatric nurses used their intuition at moderate and high levels. In addition, higher levels of intuition were found in nurses who worked in pediatric ICUs and in nurses with less work experience. Nursing leaders are advised to encourage nurses to use their intuition confidently and without fear of blame in difficult and sensitive pediatric nursing situations.

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## Competing interests

The authors declare that they have no competing interests.

## Abbreviations

Smith Intuition Instrument: SII;

Intensive care units: ICUs.

## Authors' contributions

All authors read and approved the final manuscript. All authors take responsibility for the integrity of the data and the accuracy of the data analysis.

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## Role of the funding source

None.

## Availability of data and materials

The data used in this study are available from the corresponding author on request.

## Ethics approval and consent to participate

The study was conducted in accordance with the Declaration of Helsinki. Institutional Review Board approval (code: IR.RUMS.REC.1396.119) was obtained (April 2020).

## Consent for publication

By submitting this document, the authors declare their consent for the final accepted version of the manuscript to be considered for publication.

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