# RESEARCH

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# Examining the relationship between nurses' professional self-efficacy and parents' perception of family-centered care



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# Abstract

**Background** Nurses, as the most critical and largest professional group providing care to children and families, play a crucial role in collaborating with the parents of hospitalized children. The foundation of nursing care is based on a family-centered approach, where families are actively involved in the care process. The provision of family-centered care in educational and medical centers requires skilled nurses with high self-efficacy. Nurses with high self-efficacy are believed to demonstrate high competence in collaborating with children, parents, and colleagues. Therefore, the present study examines the relationship between nurses' professional self-efficacy and parents' perceptions of family-centered care.

**Methods** The present descriptive-correlational study was conducted in 2024 at the Pediatric Specialty Center of Ardabil in northwest Iran. 200 nurses were selected using a census method, and 220 parents of hospitalized children were selected through stratified random sampling. Data were collected using two valid and reliable tools: the Professional Self-Efficacy Questionnaire for Nurses, and the Perception of Family-Centered Care for Parents Questionnaire. The data were analyzed using independent t-tests, one-way analysis of variance, Pearson correlation coefficient, and multiple linear regression tests using SPSS version 24.

**Results** According to the results, 54% of the nurses and 78% of the parents reported their level of professional self-efficacy and perception of family-centered care as moderate, respectively. Statistical analysis has not revealed significant correlations between demographic variables professional self-efficacy and perception of family center care. Multiple linear regression analysis showed that professional self-efficacy and subscales were predictors of parents' perception of family-centered care. The selected predictors accounted for 2.6% of the total variance in the perception of family-centered care (F = 2.79, P = 0.041).

**Conclusions** The present study revealed a limited association between nurses' professional self-efficacy and parents' perceptions of family-centered care. Consequently, there is a clear imperative for nursing leadership to implement targeted interventions to bolster nurses' self-efficacy. Specifically, organizing workshops designed to enhance nurses' confidence and foster collaborative partnerships with parents is recommended. Such initiatives have the potential to significantly improve the delivery of high-quality nursing care to hospitalized children, ultimately optimizing patient outcomes and family satisfaction.

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Clinical trial number Not applicable.

Keywords Professional self-efficacy, Family-centered care, Nurse, Parents

# Introduction

Nurses, as the primary architects of patient care and the largest group of healthcare providers, possess significant potential to influence the quality of healthcare services [1]. According to the latest statistics from the World Health Organization, nurses constitute 50% of the global health workforce [2]. In developed countries, at least 50% and, in some cases, up to 80% of healthcare services are delivered by nurses [3]. Nursing care is a fundamental component of healthcare, making this profession unique [4, 5]. To enhance the performance of nurses in delivering high-quality care, it is essential to have skilled and self-efficacious nurses [6].

In pediatric nursing, the care and promotion of children's health are critical indicators of health development in societies, necessitating nurses with high self-efficacy. Self-efficacy refers to the belief in one's ability to execute the necessary actions to achieve desired outcomes [7]. Nurses with high self-efficacy maintain a direct and positive relationship with hospitalized children, their parents, and colleagues, exhibiting strong communication skills [8, 9]. Moreover, they demonstrate higher motivation to adhere to protocols and experience greater job satisfaction. Given the cultural, environmental, and educational differences among nurses and hospitalized children in pediatric wards, ensuring that nurses possess high selfefficacy is crucial for the quality of care provided [10–13].

Recently, nursing care has shifted towards a familycentered approach, emphasizing families' active involvement and participation in hospitalized children's care and treatment processes. Since children are invaluable national assets and their growth and treatment are key health system goals, providing child and family-centered care is a critical aspect of nursing [5, 14]. Families serve as the most important centers for the psychosocial development of children, with parental care playing a crucial role in their overall development. Consequently, familycentered care emerges as a key aspect of pediatric care, defined as the provision of collaborative services among clinical staff, treatment teams, and the families of children [15]. Family-centered care aims to foster active participation between the child, the family, and the nurses. In this approach, parents transition from passive roles to active participants in their children's care processes [16-18].

Major benefits of implementing this care model include reduced stress, shorter treatment durations, increased comfort for children, and assurance of the adequacy of treatment plans and discharge procedures [19]. According to the study by Esmaeili and Aslan (2018), family-centered care, due to family involvement in treatment, leads to better clinical outcomes, including reduced mortality rates, increased satisfaction, improved adherence to dietary regimens, and decreased rates of rehospitalization in children [20]. According to the study by Sadeghi et al. (2023), competence and Improving nurses' performance and self-efficacy can increase the participation of parents and nurses. Given the current need for parents with a high perception of participation to collaborate with self-efficacious nurses to enhance nursing care for hospitalized children, and considering the lack of sufficient scientific evidence in this area [21], the present study aims to examine the relationship between the nurses' professional self-efficacy and parents' perception of family-centered care.

# Materials and methods

# Study design and participants

This study was descriptive-correlational research conducted from January to June 2024 in the pediatric specialty center of Ardabil, BouAli Hospital in northwest Iran. This center is the only specialized and sub-specialized part for children and infants in the province with experienced and technical personnel with special departments of NICU, PICU, and super-specialized departments of newborns, pediatric infectious diseases, children's hearts, hemophilia and thalassemia, hematology, and pediatric oncology, emergency. The center also focuses on educating students at the undergraduate and graduate levels in nursing, general medicine, and specialized medicine. For this reason, the researcher has conducted their study at this educational and medical center.

# Sample size

The sample size for nurses was determined using the census sampling method, which included all clinical nurses meeting the inclusion criteria, accounting for a 10% dropout rate, totaling 200 participants. A sample size of 220 parents was determined using stratified random sampling and Cochran's formula with the following parameters: p = 0.5, q = 0.5,  $\alpha = 0.05$ , and a margin of error (d) of 0.05. Considering a target population of 400 and accounting for a 10% attrition rate, as suggested by previous studies, this sample size was calculated [22].

$$n = \frac{\frac{z^2 pq}{d^2}}{1 + \frac{1}{N} \left[\frac{z^2 pq}{d^2} - 1\right]}$$

# Participants

**Nurses:** The sampling method for clinical nurses at BouAli Hospital was census-based. The inclusion criteria for nurses were a minimum of one year of work experience in pediatric wards, at least a bachelor's degree, and providing written informed consent to participate in the study. The exclusion criteria included incomplete responses to the questionnaire or withdrawal from the study.

Parents: The sampling method for parents was proportional stratified random sampling. BouAli Hospital has 200 active beds, the ratio of active beds in each ward is divided by the total number of beds in the hospital, and the resulting ratio is multiplied by the sample size, resulting in the number of hospitalized children in each ward. Then, using simple random sampling facilitated by mobile software, children were selected proportionally from each ward based on the calculated ratio. The inclusion criteria for parents included a minimum of 72 h of hospitalization of the child in the pediatric ward, absence of mental disorders (as reported by the patient due to the short stay in the Pediatric department), and being in suitable physical condition to participate in the study, willingness to complete the questionnaire, and providing written informed consent to participate in the study. The exclusion criteria were incomplete questionnaire responses or withdrawal from participation in the study. Sampling continued until data were collected from 220 participants.

# Instruments

Data were collected using demographic data, the Professional Self-Efficacy Questionnaire, and the Perception of Family-Centered Care Questionnaire.

Four questionnaires were used for data collection. The first questionnaire focused on nurses' demographic characteristics, including questions about (gender, age, Marital status, Having a child, education level, and work in pediatric experience). The **second** questionnaire covered the demographic characteristics of parents, consisting of five items related to (Parents' age, children's age, gender of child, child's birth order, and Parents' Education level). The third questionnaire was the Professional Self-Efficacy of Nurses, designed by Polit and Yang (2016) [23] and psychometrically validated in Iran by Lazemi and Barkhordari (2023) [24]. This tool consists of 19 questions classified into three dimensions: Care Situations (questions 1-6), Supportive Situations (questions 7-11), and Professional Situations (questions 12–19). It is scored on a 5-point Likert scale ranging from "Not confident at all" (score 1) to "Completely confident" (score 5), with a total score range of 19–95. The validity of the questionnaire in the study by Polit et al. was 0.79, and its Cronbach's alpha reliability was 0.93. In the study validated by Lazemi and Barkhordari, Cronbach's alpha was 0.86. In the present study, the reliability of the tool was calculated using Cronbach's alpha technique at 0.92. The fourth questionnaire was the Perception of Family-Centered Care questionnaire designed by Shields and Tanner (2004) [25], which was Translated and Psychometric Testing in Iran by Vasli (2018) [26]. This questionnaire contains 21 questions for nurses and 21 questions for parents, with only the parent-related questions used in this study. This tool includes three dimensions: Respect (questions 1-6), Collaboration (questions 7-16), and Support (questions 17-21), and is scored on a 4-point Likert scale ranging from "Never" (score 1) to "Always" (score 4), with a total score range of 21-84. The content validity ratio was greater than 0.62, and the content validity index was 0.83. The reliability of the tool in the present study was also calculated using Cronbach's alpha at 0.81. The law of quartiles was used to determine the status of nurses' professional self-efficacy and parents' perception of familycentered care. The mean scores of questions related to nurses' professional self-efficacy and parents' perception of family-centered care and their sub-components were compared with the criterion score. The criterion score was calculated using the following formula: maximum obtained score minus minimum obtained score divided by two plus the minimum obtained score [27].

This study was conducted after obtaining approval for the research proposal and the necessary permissions from the Ardabil University of Medical Sciences. The researcher visited the Pediatric departments of the participating hospital during different shifts to identify qualified patients. After explaining the study's objectives and obtaining informed written consent, the questionnaires were completed privately, ensuring accuracy and honesty. Parents were assured that their information would be kept confidential and that nonparticipation would not affect their treatment process.

# Data processing

Data were coded and entered into SPSS software version 24. Descriptive statistical methods such as absolute and relative frequency, mean, and standard deviation were used for data analysis. The Kolmogorov-Smirnov test assessed the data's normal distribution, and the results indicated a normal data distribution (P > 0.05). Parametric tests such as the t-test, analysis of variance, Pearson correlation coefficient, and multiple linear regression analysis were also used for data analysis.

# Results

The average age of the nurses and the parents of hospitalized children was  $(35.29 \pm 6.83)$  and  $(30.36 \pm 8.01)$  years, respectively. The majority of nurses (95%) were female, and 78.5% were married. Most of the hospitalized

<b>Table 1</b> Nurses' characteristics of research participants
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Variable		Average	Standard deviation	Professional self-efficacy (P-Value)
Age (years)		35.29	6.83	0.6 <sup>2</sup>
Work experience (years)	in pediatrics	8.4	5.72	0.23 <sup>2</sup>
Variable		Number	Percent	
Gender	Man	10	5	0.66 <sup>1</sup>
	Female	190	95	
Marital status	Married	157	78.5	0.24 <sup>1</sup>
	Single	43	21.5	
Education level	Bachelor	188	92	0.07 <sup>1</sup>
	Master	12	8	
Having a child	Yes	130	65	
	No	70	35	0.93 <sup>1</sup>

<sup>1</sup> Independent Sample T-Test, <sup>2</sup> Pearson Correlation Test

 Table 2
 Parents' characteristics of research participants

Variable		Average	Standard deviation	Perception of the family center care (P-value)	
Parents' age (	years)	30.36	8.01	0.48 <sup>3</sup>	
Childrens' age	e (years)	5.4	3.75	0.89 <sup>3</sup>	
		Number	Percent		
Gender of	Воу	120	54.5	0.15 <sup>1</sup>	
child's	Girl	100	45.5		
Child's birth order	The first	96	43.6		
	The second	85	38.6	0.5 <sup>2</sup>	
	Others	39	17.8		
Parents'	illiterate	120	54.5		
Education level	Diploma	66	30		
	Bachelor	30	13.6	0.07 <sup>2</sup>	
	Others	4	1.8		

<sup>1</sup> Independent Sample T-Test, <sup>2</sup> One-Way ANOVA Test, <sup>3</sup> Pearson Correlation Test

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Table 4	Correlation	coefficients	between	nurses' p	professional
self effica	acy and pare	ents' percept	ion of Far	nily-Cen <sup>-</sup>	tered care

	Perception of family-centered care (P-value)		
Total score	-0.202**(0.004)		
Professional situation	-0.194**(0.006)		
Care situation	-0.176*(0.01)		
Support situation	-0.179*(0.01)		
	<b>Total score</b> Professional situation Care situation Support situation		

\*P<0.05, \*\*P<0.01

children were boys (54.5%) and were the first child in their families (43.6%). In this study, none of the demographic variables had a significant relationship with nurses' professional self-efficacy or parents' perception of family-centered care (Tables 1 and 2).

Among the samples, 54% of nurses reported their professional self-efficacy as moderate, and 78% of parents reported their perception of family-centered care as moderate. The mean scores for nurses' professional self-efficacy and parents' perception of family-centered care were ( $74.54 \pm 12.11$ ) and ( $58.66 \pm 6.19$ ), respectively (Table 3).

To examine the relationship between nurses' professional self-efficacy and parents' perception of family-centered care, Pearson correlation tests were used. The tests revealed a significant weak relationship between the two variables (P = 0.004) (Table 4).

To explain the participants' perceptions of familycentered care status, the enter method of multiple linear regression analysis was performed. The results showed that professional self-efficacy and subscales (care and support situation) determined the participants' perceptions of family-centered care status. These variables could predict 2.6% of the family-centered care variance (Table 5).

Variable		N (%)	Mean ± SD	Minimum	Maximum
Professional Self-efficacy	Low Level	1.5			
	Moderate Level	54	74.54±12.11	32	95
	High Level	44 5			

Table 3 Mean and standard deviation of scores of nurses' professional Self-efficacy and parents' perception of Family-Centered care

	r light Level	44.0			
	subcomponents	Professional situation	$31.36 \pm 5.55$	14	40
		Care situation	$23.34 \pm 4.18$	10	30
		Support situation	$19.83 \pm 3.54$	6	25
Perception of Family-Centered Care	Low Level	1.5			
	Moderate Level	78	$58.66 \pm 6.19$	37	69
	High Level	20.5			
	subcomponents	Respect	$20.14 \pm 2.37$	11	23
		Collaboration	$33.19 \pm 2.25$	27	39
		Support	$14.09 \pm 2.58$	5	20

Predictor	Unstandardized coefficients (B)	SE	Standardized coefficients (B)	t	P-value	Confidence interval 95%	
						Lower bound	Upper bound
Professional self-efficacy	-0.137	0.128	-0.261	-1.07	0.286	-0.388	0.115
Care situation	0.061	0.254	0.04	0.241	0.810	-0.439	0.561
Support situation	0.044	0.295	0.025	0.15	0.881	-0.538	0.627

Table 5 Linear regression analysis coefficients to examine predictors of perception of family-centered care

R2=0.041, Adjusted R2=0.026, F=2.79, p=0.041

# Discussion

Given the current need for parents with a high perception of participation to collaborate with self-efficacious nurses to enhance nursing care for hospitalized children [21]. Our study demonstrated the relationship between nurses' professional self-efficacy and parents' perceptions of family-centered care. Pediatric nurses play a key role in enhancing nurses professional self-efficacy and collaborating with parents to promote family-centered care.

Reports indicate that the level of professional self-efficacy among nurses is generally moderate. These findings are consistent with the results of studies conducted by Abadian et al. in Kashan, Iran (2024), Berdida et al. in the Philippines (2024), Mokhdari et al. in Iran (2022), and Dehghani et al. in Yazd, Iran (2019), all of which reported moderate levels of nurses' professional self-efficacy [28-33]. However, the results of Motahari et al. in East Gilan Province, Iran (2020), and Pourteimour et al. in Urmia, Iran (2019), were also consistent with the present study, but they reported higher levels of nurses' professional self-efficacy, which contrasts with the current findings [34, 35]. This discrepancy may be attributed to factors such as insufficient training programs, inadequate skill development courses for nurses, low organizational support from colleagues and managers, and the limited experience of some nurses. These factors can lead to reduced confidence, resulting in a suboptimal level of professional self-efficacy among nurses.

The highest mean score in the nurses' professional self-efficacy questionnaire was attributed to the predictor variable "Professional Situation," which aligns with the results of Magon et al. (2023) [36] but contradicts the findings of Kim et al. (2022) [37]. Conversely, the lowest mean score and standard deviation were assigned to the "Support Situation" item, consistent with the findings of Oh et al. (2021) [38]. This discrepancy may arise from the recognition and respect that professional roles command within the healthcare system, leading to higher self-efficacy in clinical skills and decision-making. In contrast, a lack of support from colleagues and managers may diminish confidence and morale, resulting in a lower perception of the supportive environment.

According to the findings, most parents reported their perception of family-centered care as moderate, which is consistent with the results of studies by Dehkordi et al. (2023), Toivonen et al. (2023), and Jalili et al. (2021), where most parents also indicated a moderate perception of family-centered care [21, 39, 40]. Conversely, the results of Okunola et al. (2017) were not consistent with the present study, as they found no significant statistical relationship between parents' participation and familycentered care [41]. The moderate level of family-centered care may stem from several factors, including inconsistent communication between healthcare providers and families, varying degrees of family involvement in care processes, and differences in the availability of resources and support systems.

The present study, along with many others, emphasizes that the perception of family-centered care—rooted in collaboration between parents and nurses can have positive psychological effects on both the child and the parents, while also improving nurses' professional selfefficacy. The importance of a favorable nurse-parent relationship in enhancing parents' and children's satisfaction and the quality of nursing services underscores the need to strengthen nurses' communication skills through education and continuous training programs. These programs should emphasize the professional relationship in providing family-centered nursing care and enhancing nurses' competence and self-efficacy.

In the present study, no significant relationship was found between demographic variables, nurses' professional self-efficacy, and parents' perceptions of familycentered care. These results are consistent with the studies conducted by Kalhor et al. (2022) and Baha et al. (2020), which also showed no significant statistical relationship between nurses' demographic information and their self-efficacy [42, 43]. In contrast, the findings from the studies by Motahari et al. (2020) and Reed et al. (2018) were inconsistent with the present study, as they emphasized a significant statistical relationship between nurses' demographic information and their self-efficacy [44]. The discrepancies observed in these results may be attributed to several factors, including insufficient cooperation between nurses and parents in the process of involving hospitalized children. Since most hospitalized children are firstborns in their families, this situation is often accompanied by mental unpreparedness and insufficient experience on the part of the parents. Additionally, fundamental educational efforts to foster behavioral change and provide family-centered care have not been effectively implemented.

The results of the multiple linear regression and Pearson correlation analyses indicated a significant but weak correlation between nurses' professional self-efficacy and parents' perceptions of family-centered care, consistent with the findings of Yoo et al. (2020) and Shin et al. (2018) and inconsistent with Coşkun et al. (2024) studies [45-47]. These studies demonstrated that higher professional self-efficacy among pediatric nurses and a greater perception of family-centered care by parents lead to increased satisfaction and improved quality of nursing care for hospitalized children. Patients' assessments of nursing care quality are considered one of the key criteria in the evaluation and accreditation of medical institutions [48]. Overall, it appears that participants in the present study evaluated nurses' professional self-efficacy and the perception of family-centered care at an optimal level and expressed satisfaction with it.

Based on the findings of the present study, increasing nurses' professional self-efficacy can enhance the level of cooperation between parents and nurses. Furthermore, implementing strategies to boost nurses' professional self-efficacy during formal education and inservice training could significantly improve collaboration between parents and nurses, which is one of the most important indicators of family-centered care.

# **Study limitations**

This study has a few limitations. First, using self-reported questionnaires can introduce bias, even though we allowed participants enough time to fill them out. Second, the study focused only on pediatric nurses from one specific region, which makes it hard to apply the findings to other groups or areas. Additionally, there were fewer male nurses compared to female nurses, which is typical in pediatric nursing in Iran. To strengthen future research, conducting multicenter studies in various cities with large sample sizes would be helpful. Another limitation is the influence of factors like heavy workloads on nurses' focus, which we could not control, to control this, we tried to distribute the questionnaires during the break time and low workload of the departments.

# Conclusion

The findings revealed a statistically significant, albeit weak, negative correlation between these two variables, both nurses' self-efficacy and parents' perceptions of family-centered care were reported at moderate levels. The observed discrepancy between the expected and actual strength of the correlation may stem from several factors. Given the complexities of implementing family-centered care principles in dynamic clinical settings, along with the diverse interactions between nurses and parents, it is likely that the statistically significant observed correlation represents a combination of factors that require further investigation. Future research should aim to clarify the intricate relationship between nurses' self-efficacy and parents' perceptions. These limitations suggest a gap between theoretical frameworks and practical applications. To address these challenges, it is recommended that healthcare administrators prioritize interventions aimed at enhancing nurses' professional self-efficacy. This could be achieved through targeted workshops and training programs to reinforce essential skills and knowledge related to family-centered care. Furthermore, fostering collaborative partnerships with parents and enhancing communication strategies tailored to children's developmental needs are crucial.

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### Author contributions

The first author was involved in the study design, data collection, data analysis, and drafting of the overall manuscript. The second author was responsible for writing and approving the final version of the manuscript. The third author played a role in the meticulous review and revision of the manuscript. The fourth author, who was the corresponding author, contributed to the design data analysis and interpretation.

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This study received no external funding.

### Data availability

The data utilized to support the results of the research are accessible to the corresponding author upon request.

# Declarations

### Ethics approval and consent to participate

The Ethics Committee in Midwifery and Nursing Research approved the study at Ardabil University of Medical Sciences (ARUMS), receiving the ethical code (IR.ARUMS.REC.1402.315). The study was conducted following the recommendations of the Declaration of Helsinki developed by the World Medical Association. Participation in the survey was voluntary, no personal data were collected, and anonymity was always maintained. All participants who received written information on the study had the opportunity to contact the investigators in case of questions at any time of the study. Informed written consent to participate was obtained from all of the participants.

### **Consent for publication**

Not applicable.

### **Competing interests**

The authors declare no competing interests.

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