



The Relationship Between Nurses' Perception of Family-Centered Care and the Quality of Nursing Care for Hospitalized Children

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Abstract

Introduction: Family-centered care is a recognized approach in pediatric nursing, emphasizing collaboration between healthcare professionals and the families of hospitalized children. Evidence suggests that this approach can enhance the quality of care for pediatric patients. This study aimed to determine the relationship between nurses' perceptions of family-centered care and the quality of nursing care provided to hospitalized children.

Methods: In this analytical cross-sectional study, 200 clinical nurses at BouAli Specialized Children's Hospital in Ardabil, Iran, were recruited through census sampling in 2024. Data collection instruments included a socio-demographic questionnaire, the Family-Centered Care Perception Scale, and the Nursing Care Quality Scale. The collected data were analyzed using independent t-tests, one-way analysis of variance (ANOVA), Pearson's correlation coefficient, and stepwise multiple regression. At a significance level of $P < 0.05$, employing SPSS version 24.

Results: The findings indicated that 86% of nurses reported a good perception of family-centered care, while 86% reported a moderate level of nursing care quality. Multiple linear regression analysis identified total work experience, respect, and collaboration as significant predictors of nursing care quality. These variables explained 24% of the total variance in nursing care quality ($R^2 = 0.24$, Adjusted $R^2 = 0.23$; $F = 21.26$, $P < 0.001$).

Conclusion: The study demonstrates that nurses' positive perceptions of family-centered care are significantly associated with higher-quality nursing care for hospitalized children. Integrating family-centered care principles into nursing may improve care quality and parental satisfaction in pediatric settings.

Keywords: Family-centered care, Perception, Nursing care, Pediatrics

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Introduction

Nurses make up the largest segment of healthcare providers and are central to designing and delivering patient care interventions (1). At the heart of nursing lies the provision of purposeful and compassionate care, a principle that guides clinical practice across contexts. In pediatric nursing specifically, the concept of family-centered care (FCC) has emerged as a leading framework that stresses collaboration between healthcare professionals and the families of hospitalized children (2). Initially introduced in the 1950s by Carl Rogers, FCC reframed the delivery of pediatric services by positioning parents as active partners in care rather than passive observers (3, 4). FCC provides a structured methodology for planning, implementing, and evaluating healthcare services in partnership with families, built on principles of respect, dignity, transparent information sharing, and collaborative decision-making

(5, 6).

Applying these principles can reduce psychological stress in children, shorten hospitalization, limit adverse effects of hospitalization, enhance comfort and support, and ensure adequacy in treatment and discharge planning (7). Because quality pediatric care cannot be delivered solely by nursing staff, active interaction between nurses and parents is vital for improving care outcomes (8). Prior work has shown that personal experiences, beliefs, values, and professional norms can shape nurses' and mothers' interpretations of FCC principles (9). Likewise, Compton et al. observed that acknowledging the needs of both recipients and providers fosters service quality and optimizes systems of care (10).

In healthcare, quality is defined as the degree to which optimal health outcomes are achieved through safe and standardized services (11). The foremost characteristic



of quality nursing care is the intentionality of actions delivered. Since the mid-20th century, quality has been regarded as a core concern in nursing interventions (12).

Both the nurse and the child are integral agents in elevating nursing care quality (13). Globally, hospital ratings and formal accreditation often rely on measures of nursing care quality (14). Engaging parents' opinions and cooperation is therefore essential in the pediatric care process, as effective communication among nurses, children, and their families underpins quality outcomes (15,16). Rostami et al. highlighted FCC as a straightforward, cost-effective strategy for enhancing childcare quality (17), while Mahmoudzadeh et al. defined quality as safe care that adheres to standards and increases parental satisfaction (18). Zhang et al. further noted that nursing care quality in many pediatric settings remains suboptimal and requires targeted improvement efforts (19).

Despite numerous studies on FCC and nursing care quality, most evidence centers on parents' or patients' views, with limited exploration of nurses' perspectives, particularly in the socio-cultural context of Iran. The absence of region-specific, nurse-focused research constrains the development of tailored interventions. Understanding this relationship is crucial to inform strategies aimed at optimizing nursing performance and patient outcomes. The present study aimed to address this gap.

Methods

Study design and setting

This investigation employed an analytical cross-sectional design conducted in 2024 at BouAli Specialized Children's Hospital in Ardabil, Iran. As the province's oldest and largest pediatric referral center, BouAli Hospital provides specialized and subspecialized services across diverse units, including pediatric inpatient wards, infectious disease, neonatal care, pediatric and neonatal intensive care, oncology, and emergency departments.

Participants and sampling

The study population comprised the entire roster of clinical nurses working at the hospital during the study period. Using a census sampling strategy, 200 eligible nurses were recruited.

Eligibility criteria

Inclusion criteria required participants to: (i) possess at least a bachelor's degree in nursing, (ii) have a minimum of one year of professional experience in pediatric wards, and (iii) provide informed consent for participation. Nurses who declined or withdrew from participation after enrollment were excluded.

Data collection instruments

Three validated questionnaires were administered

Socio-demographic form: capturing information on sex, age, academic qualification, unit of assignment, total

work experience, and years of pediatric ward service.

The Perception of Family-Centered Care Questionnaire

The Perception of Family-Centered Care Questionnaire was initially developed by Sheldon and Tanner (2004) (20) and was translated and psychometrically tested in Iran by Vasli (2018) (21). This questionnaire measures the perception of family-centered care among nurses and parents of hospitalized children. In the present study, it was also used to assess nurses' perception of family-centered care. The questionnaire consists of 21 items divided into three dimensions: respect (items 6-1), collaboration (items 7-16), and support (items 17-21). The items were rated on a 4-point Likert scale ranging from "never" to "always". The total score range is 21-84. This study reported a content validity ratio (CVR) of 0.62 and an index of 0.81, respectively. Cronbach's alpha was used to assess the instrument's internal consistency, and a value of 0.87 was obtained in the present study, indicating good internal consistency (22).

The Nursing Care Quality Scale (CNCQS) questionnaire

The Nursing Care Quality Scale (CNCQS) questionnaire was initially developed by Koy et al. (2017) (23) and was adapted and psychometrically tested in Iran by Tehranineshat et al. (2023) (24). This questionnaire comprises 35 items and six dimensions: Patient outcomes (items 9-1), Ethics-oriented activities (items 10-16), Nurse's task requirement (items 17-22), Nurse's characteristics (items 23-28), Progress of the nursing process (items 29-32), and Physical environment (items 33-35). The items were rated on a 5-point Likert scale ranging from "strongly disagree" to "strongly agree". The total score range is 35-175. The questionnaire's validity was established in the original study, and Cronbach's alpha and intra-group correlation coefficients were 0.94 and 0.85, respectively. Cronbach's alpha was used to assess the instrument's internal consistency, and a value of 0.94 was obtained in the present study, indicating good internal consistency (22).

Procedure

Upon securing institutional authorization and ethics approval, the researcher visited the hospital during various work shifts to approach prospective participants. The study purpose and procedures were explained individually, informed consent was obtained in writing, and questionnaires were completed in a private setting to ensure confidentiality. Participants were assured that responses would remain anonymous and that their decision to participate or not would not impact their employment.

Statistical Analysis

Statistical analyses were conducted using SPSS version 24. Descriptive statistics (frequency, percentage, mean, standard deviation) summarized participant characteristics and main variables. The Kolmogorov-

Smirnov test confirmed normality ($P > 0.05$). Inferential analyses included independent-samples t-tests, one-way analysis of variance (ANOVA), Pearson correlation coefficients, and stepwise multiple regression to identify predictors of nursing care quality based on nurses' perceptions of family-centered care. The significance threshold was set at $P < 0.05$.

Results

Sample characteristics

A total of 200 clinical nurses participated in the study. The mean age of the nurses was 35.29 ± 6.83 years, with a mean of 10.39 ± 6.72 years of total work experience and 8.4 ± 4.66 years of pediatric experience. Most nurses were female (94.5%), with a bachelor's education level (92.5%).

Independent samples t-tests don't reveal statistically significant differences between genders and education levels in terms of quality of nursing care ($P > 0.05$), but, the one-way ANOVA test reveals statistically significant differences between nursing units and quality of nursing care ($P < 0.05$). Additionally, the Pearson's test revealed a correlation between nurses' age, work experience and work in pediatric wards with the quality of nursing care skills. The analysis showed that age was significantly associated with the quality of nursing care ($r = 0.202$, $P = 0.004$), indicating that older nurses tended to report higher quality scores. Similarly, total work experience demonstrated a positive and significant correlation with care quality ($r = 0.186$, $P = 0.008$). Years of experience in pediatric wards were also positively related to the quality of nursing care ($r = 0.144$, $P = 0.041$). Gender was not significantly associated with quality scores ($t = -0.86$, $P = 0.39$). Likewise, education level (Bachelor vs. Master) did not show a statistically significant difference ($t = -1.10$,

$P = 0.21$) (Table 1).

The mean score for nurses' perception of family-centered care was 66.96 ± 3.78 , indicating good perception. The mean score for nursing care quality was 134.19 ± 9.75 , indicating a moderate level. The highest mean score for nurses' perception of family-centered care was for the 'collaboration' subscale (33.19 ± 2.25), and the highest mean score for the quality of nursing care was for the 'patient outcomes' subscale (33.15 ± 3.33) (Table 2).

Pearson correlation analysis revealed a significant correlation between nurses' perception of family-centered care and its dimensions (respect, collaboration, and support) with the quality of nursing care ($P < 0.05$) (Table 3).

In Table 4, the univariate regression analyses (Model 1) revealed that several factors were significantly associated with the quality of nursing care. Among demographic and experiential variables, age ($\beta = 0.20$, $F = 9.45$, $p = 0.004$), total work experience ($\beta = 0.18$, $F = 7.10$, $p = 0.008$), and pediatric ward work experience ($\beta = 0.14$, $F = 4.22$, $P = 0.041$) demonstrated positive associations with care quality. Regarding attitudinal and relational variables, perceptions of family-centered care exhibited the strongest relationship ($\beta = 0.45$, $F = 51.97$, $P < 0.001$), followed by respect ($\beta = 0.35$, $F = 28.78$, $P < 0.001$), collaboration ($\beta = 0.37$, $F = 32.03$, $P < 0.001$), and support ($\beta = 0.17$, $F = 6.36$, $P = 0.012$).

Variables with $P < 0.20$ in Model 1 were entered into the multiple regression analysis (Model 2) using the backward elimination approach. The final model retained only total work experience ($\beta = 0.19$, $P = 0.002$), respect ($\beta = 0.29$, $P < 0.001$), and collaboration ($\beta = 0.30$, $P < 0.001$) as significant predictors of nursing care quality. These findings suggest that, when controlling for other

Table 1. Nurses' characteristics of research participants

Variable		Mean	standard deviation	r/t	F	P-Value
Age (years)		35.29	6.83	0.202		0.004
Total work experience		10.39	6.72	0.186		0.008
Work in pediatric wards experience (years)		8.4	4.66	0.144		0.041
Variable		Number	Percent			
Gender	Man	11	5.5	-0.86	0.99	0.39
	Female	189	94.5			
Education level	Bachelor	185	92.5	-1.10	3.91	0.21
	Master	15	7.5			
Units	Pediatrics Section 1,2	60	30			
	PICU	20	10			
	NICU	34	17			
	Infection	21	10.5			
	Oncology	10	5		2.41	0.017
	Neonatal	19	9.5			
	Emergency	26	13			
	Others	10	5			

PICU: Pediatric Intensive Care Units, NICU: Neonatal Intensive Care Units, r: Correlation coefficient, T: t-value, F: F-value

Table 2. Mean and standard deviation of scores of nurses' perceptions of family-centered care and quality of nursing care

Variable		N (%)	Mean $\pm$ SD	Minimum	Maximum
Perception of family-centered care	Low Level	-			
	Moderate Level	14	66.96 $\pm$ 3.78	57	80
	High Level	86			
	subcomponents				
	Respect		17.79 $\pm$ 1.74	14	24
Quality of nursing care	Collaboration		33.19 $\pm$ 2.25	27	39
	Support		15.95 $\pm$ 1.46	12	20
	Low Level	-			
	Moderate Level	86	134.19 $\pm$ 9.75	105	175
	High Level	14			
	Patient outcomes		33.15 $\pm$ 3.33	27	45
	Ethics-oriented activities		27.91 $\pm$ 2.67	21	35
	subcomponents				
	Nurses' task requirements		24.19 $\pm$ 2.22	17	30
	Nurses' characteristics		23.78 $\pm$ 2.25	18	30
	Progress of the nursing process		15.75 $\pm$ 1.84	12	20
	Physical environment		9.4 $\pm$ 1.83	3	15

Table 3. Correlation coefficients between nurses' perceptions of family-centered care and quality of nursing care

Variable		r	P-value
Perceptions of family-centered care	Total score	0.456	(<0.001)
	Respect	0.356	(<0.001)
	Collaboration	0.373	(<0.001)
	Support	0.176	(0.01)

*Pearson correlation coefficient

Table 4. The results of multiple regression to determine the predictors of quality of nursing care

Predictor variables	Model 1			Model 2	
	Beta	F	P	Beta	P
age (years)	0.20	9.45	0.004	-	-
Total work experience (years)	0.18	7.10	0.008	0.19	0.002
Work in pediatric wards experience (years)	0.14	4.22	0.041	-	-
Perceptions of family-centered care	0.45	51.97	<0.001	-	-
Respect	0.35	28.78	<0.001	0.29	<0.001
Collaboration	0.37	32.03	<0.001	0.30	<0.001
Support	0.17	6.36	0.012	-	-
Model characteristics		R ² =0.24, Adjusted R ² =0.23, R=0.496, F=21.26, P<0.001			

Note. Model 1 presents the results of univariate linear regression analyses between each predictor variable and the quality of nursing care. Variables with a significance level of $P < 0.20$ in Model 1 were entered into the multiple linear regression model (Model 2) using the backward elimination method. Model 2 reports only the predictors that remained statistically significant in the final model. Standardized beta coefficients (β), F-statistics, and P-values are presented for each predictor

factors, relational competencies, particularly respect and collaboration—alongside professional experience, are the most significant determinants of care quality.

The final regression model accounted for 24% of the variance in nursing care quality (Adjusted $R^2 = 0.23$), with an overall model fit of $R = 0.496$, $F = 21.26$, $P < 0.001$, indicating a statistically significant and moderately strong explanatory power.

Discussion

The primary objective of this investigation was to investigate the relationship between nurses' perceptions of family-centered care (FCC) and the quality of nursing care delivered to hospitalized children. The data revealed

a significant and positive association between favorable FCC perceptions and higher care quality scores. This relationship suggests that strengthening nurses' understanding and practical application of FCC principles could be a viable strategy for enhancing pediatric care outcomes.

Delivering and continuously improving high-quality nursing care requires nurses to have up-to-date, comprehensive knowledge of each child's clinical status. Performance evaluation within healthcare organizations not only tracks progress toward predefined objectives but also supports targeted interventions to raise quality standards. In the present study, nurses generally exhibited positive views toward FCC, consistent with the findings

reported by Lim and Bang (2023) (25) in Korea, and Vasli (2021) (26) in Iranian neonatal and pediatric intensive care units. Conversely, Gill et al. (27) reported more moderate FCC perceptions among Australian nurses. Variations across studies may be shaped by differences in healthcare infrastructure, organizational culture, staffing levels, and the socio-cultural expectations surrounding nurse-family communication. In Iran, for example, caregiving often draws upon extended family networks and longstanding cultural traditions that naturally align with FCC principles.

In the present dataset, collaboration emerged as the highest-scoring FCC dimension, echoing patterns observed by Aran et al. (28). However, Lim and Bang's analysis (29) documented comparatively lower collaboration scores, perhaps influenced by heavier workloads or differing institutional protocols. The lowest-scoring element in our study was "support," a finding that again matches Aran et al.'s report (28), but diverges from Lim and Bang's (29). These inconsistencies highlight the impact of local resources, formal FCC training availability, unit climate, and leadership commitment on the extent to which FCC principles are fully implemented. Broader, multi-setting research remains essential for distilling best practices that are adaptable across contexts.

Regarding nursing care quality, participants' scores were moderate on average, in line with observations from Pirizadeh et al. (30), in Urmia, Gholami et al. (31), and Neves et al. (32) in Portugal.

Nevertheless, discrepancies arose when comparing our data with those of Bahari et al., Karaca et al. (33), and Khaki et al. (34), which showed context-dependent differences in quality ratings. Such variability may derive from the type of clinical unit (e.g., pediatric specialty vs. adult or prehospital care), resource levels, nurse-to-patient ratios, organizational culture, and the breadth of in-service education. Furthermore, differences in the instruments used to measure quality, as well as national or institutional healthcare policies, can influence cross-study comparability.

Analysis of nursing care quality subcomponents revealed "patient outcomes" as the strongest area and "physical environment" as the weakest, diverging from the findings by Bahari et al. (32), Abdian et al. (35), and Safari et al. (36). These differences may reflect pediatric-specific factors such as higher parental presence, greater emotional intensity surrounding children's illnesses, and the distinct environmental demands of pediatric units. Consistencies with other research, on the other hand, may stem from globally shared emphases on patient-centered and evidence-based practice. Future inquiry should consider how regional resource distribution, environmental design, and institutional policies interact to shape both the process and outcomes of nursing care.

Demographic variables—including age, total professional experience, and years spent in pediatric wards—were also significantly linked to care quality in this study, aligning with the findings of Coşkun et

al. (37). In contrast, Bahari et al. (34) and Komeili et al. (38) did not identify similar patterns. Discrepancies may stem from differences in sample size, case mix, hospital governance, and the socio-cultural backdrop within which nursing care is provided. Studies with broader and more heterogeneous samples, incorporating perspectives from both nurses and patient families, may yield more generalizable and nuanced insights into these relationships.

The analysis indicated that the quality of nursing care reported by participants was shaped by demographic and experiential factors, including age, total years in the profession, length of service in pediatric wards, assigned ward units, and specific subscales of the Perceptions of Family-Centered Care, namely respect, collaboration, and support. Collectively, these predictors accounted for 24% of the variance in nursing care quality. This aligns with the findings of Aran et al. (28), who also observed a strong association between nurses' and mothers' perceptions of family-centered care. Diverging from earlier studies that emphasized variables such as educational attainment or nurse-to-patient ratio as more influential determinants, our results highlighted the primacy of demographic factors and FCC perception dimensions. These distinctions may reflect the unique organizational characteristics, cultural prioritization of family engagement in care, and specific attributes of the present study population, which together may attenuate the relevance of other predictors reported in different healthcare contexts.

Nonetheless, the study's conclusions must be interpreted in light of several limitations. The cross-sectional design does not permit causal inference regarding the observed relationships. Dependence on self-reported data introduces the possibility of recall or response bias. Furthermore, the focus on a targeted group of clinical settings within a defined cultural and organizational environment limits the generalizability of the findings. Finally, unmeasured confounders, including workload intensity, levels of institutional support, and individual nurse characteristics, may have contributed to the observed associations, warranting cautious extrapolation to broader nursing populations and settings.

Conclusion

The results of the present study revealed that nurses generally held adequate perceptions regarding family-centered care, while their evaluations of overall nursing care quality were at a moderate level. Statistical analysis further revealed a significant positive correlation between the two variables, suggesting that nurses' enhanced understanding of family-centered care is associated with improved care outcomes for hospitalized children. Strengthening these competencies can be achieved through targeted professional development initiatives, such as structured workshops and ongoing expert consultations, designed to deepen both knowledge and practical application. Incorporating family-centered care principles as a fundamental element within nursing

education programs can ensure that such essential skills are cultivated early in the training process, thereby preparing nurses to deliver more effective and holistic patient care.

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Authors' Contribution

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Competing Interests

The authors declare that they have no conflict of interest.

Data Availability Statement

All necessary data will be available from the corresponding author upon reasonable request.

Ethical Approval

This study is based on a master's thesis in pediatric nursing, which was approved by the Research Council of Ardabil University of Medical Sciences and Health Services (Ethical code: IR.ARUMS.REC.1402.315). None of the authors of this study has any conflict of interest with any individuals or institutions for the publication of this article.

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