



Discharge planning, family-centered care, and caregiver satisfaction in pediatric nursing in the Southwestern Region of Vietnam

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ABSTRACT

Objective: To evaluate the status and relationships between discharge planning care, family-centered care, and caregiver satisfaction within the pediatric healthcare context at three general hospitals in the Southwestern region of Vietnam. **Methods:** A descriptive–correlational study was conducted among 400 parent-caregivers of hospitalized children in three general hospitals. Data were collected using validated structured questionnaires, including a Discharge planning scale, a modified Family-Centered Care Assessment for Families, and a Caregiver satisfaction scale, all measured on a five-point Likert scale. Data were analyzed using descriptive statistics, Pearson’s correlation, and mediation analysis. **Results:** Discharge planning was generally practiced (mean = 3.72), with lower performance in lifestyle-related guidance and provision of written educational materials. Family-centered care was moderately implemented (mean = 3.40), with notable gaps in shared decision-making and caregiver engagement. Caregiver satisfaction was relatively high (mean = 3.76), particularly in assessment and monitoring domains, although communication and education showed variability. Educational attainment was the only factor significantly associated with satisfaction ($p = 0.038$). Discharge planning was negatively associated with family-centered care ($\beta = -0.266$, $p < 0.001$), while neither discharge planning nor family-centered care showed a significant association with overall caregiver satisfaction. Mediation analysis indicated that family-centered care did not significantly mediate this relationship ($p = 0.898$). **Conclusion:** Despite favorable satisfaction levels, family-centered care remains suboptimal and its role in linking discharge planning to caregiver outcomes appears limited. Strengthening structured discharge education and enhancing caregiver engagement through standardized family-centered care based protocols may improve pediatric care quality.

Keywords: Discharge planning; Family-centered care; Caregiver satisfaction; Pediatric nursing; Nursing Care; Vietnam.

INTRODUCTION

Pediatric hospitalization represents a significant transition that imposes a substantial psychological and emotional

burden on parents ¹. During this critical period, the quality of nursing care is not merely defined by clinical interventions but also by the effectiveness of discharge

planning and the integration of family involvement into the care process ^{2, 3}. Discharge planning is recognized as a systematic, multidisciplinary approach designed to facilitate a safe transition from the hospital to the home environment ⁴. In pediatric nursing, where children are entirely dependent on their parents for health management, effective discharge preparation is essential to prevent post-discharge complications and ensure the continuity of care ^{5, 6}. Furthermore, the involvement of parents in decision-making and daily care activities is a fundamental component of high-quality pediatric services, directly influencing the overall success of the child's recovery ².

Current international evidence highlights that discharge planning is a multifaceted process encompassing follow-up coordination, family preparation, and guidance on lifestyle modifications ^{4, 6}. Research by Gonçalves-Bradley emphasizes that structured discharge protocols can significantly reduce hospital readmission rates and improve the coordination of post-discharge services ⁴. In parallel, Family-Centered Care (FCC) has emerged as a gold standard in pediatric nursing, prioritizing a collaborative partnership between healthcare professionals and parents. FCC emphasizes respect for family preferences, open communication, and the empowerment of parents as active participants in the clinical journey ^{7, 8}. Consequently, parent satisfaction has become a vital metric for assessing healthcare quality ⁹. Evidence suggests that when parents of pediatric patients perceive that their needs are met and their roles are supported, they demonstrate higher levels of adherence to treatment plans and improved confidence in home-based care management ⁹⁻¹¹.

Despite the global consensus on the importance of these elements, significant research gaps persist, particularly in low- and middle-income contexts. While many studies have explored clinical outcomes, there is limited investigation into the psychosocial dimensions of care that determine parent satisfaction and the effectiveness of family involvement ^{5, 12}. In the specific context of Vietnam, the implementation of FCC and structured discharge planning remains inconsistent ¹³. Cultural norms, such as 'familism,' often define the role of parents as primary providers of basic care, yet they are frequently excluded from strategic medical decision-making or provided with insufficient discharge information ¹³. Furthermore, while some research has addressed pediatric care in major metropolitan centers, there is a lack of systematic evidence regarding the integration of FCC and discharge planning within the provincial healthcare systems of the Southwestern region of Vietnam ^{11, 13}.

The rationale for this study is rooted in the critical need to address the challenges parents of pediatric patients face during the transition from hospital to home without adequate information or professional support. Understanding the interrelationships between discharge planning, FCC practices, and parent satisfaction is essential for refining nursing strategies and enhancing healthcare quality in Vietnam. This study aims to evaluate the current status of these variables and explore whether FCC serves as a mediating mechanism between structured discharge planning and the satisfaction levels of parents. By identifying specific strengths and deficiencies in clinical practice, the research seeks to provide an empirical basis for the development of a Structured Pediatric Discharge and Family-Centered

Care Protocol. Ultimately, the objective is to assess the demographic profile of parents, evaluate their perceptions of discharge planning and FCC, and measure their level of satisfaction with nursing care in selected hospitals within the Southwestern region of Vietnam.

PARTICIPANTS AND METHODS

Participants: The target population consisted of parental caregivers responsible for the daily care and medical decision-making of pediatric patients.

Inclusion criteria: (1) Parents directly involved in the care of the hospitalized child; (2) parents of children approved for discharge on the day of data collection; and (3) individuals who voluntarily agreed to participate.

Exclusion criteria: Parents of children in emergency situations requiring immediate transfer to another medical facility.

Study setting and period: The study was conducted within the Pediatrics Departments of three general hospitals located in the Southwestern region of Vietnam from July to December 2025. In accordance with institutional regulations, the participating hospitals were anonymized and are referred to as Hospital 1, Hospital 2, and Hospital 3. These hospitals were selected to represent the study setting in the Southwestern region. A total of 400 participants were recruited and distributed almost equally across the three hospitals: Hospital 1 (n = 134), Hospital 2 (n = 133), and Hospital 3 (n = 133).

Study design: A descriptive-correlational study was conducted.

Sample size: The minimum sample size was calculated using G*Power software. Based on an alpha level of 0.01, a statistical

power of 99%, an effect size of 0.1, and three predictors, the required minimum was determined to be 304 participants. To ensure robustness and representativeness, the final sample was increased to 400 participants.

Sampling method: Purposive sampling was employed to recruit participants who were readily available and willing during the discharge process, specifically while finalizing hospital administrative requirements.

Data collection instruments: Data were collected using a structured four-part survey questionnaire:

Sociodemographic profile: Included age, marital status, highest educational attainment, and employment status.

Discharge Planning: The discharge planning instrument was informed by the framework proposed by Berry JG ¹⁴, focusing on pediatric hospital discharge care. It consisted of 12 items categorized into three domains: (1) Follow-up appointments, (2) Family preparation and support, and (3) Lifestyle changes. Responses were measured on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Family-Centered Care Assessment (FCCA): Family-centered care (FCC) was assessed using a modified version of the Family-Centered Care Assessment for Families (FCCA-F) originally developed by Nora Wells ¹⁵. The modified tool comprised 20 items evaluating five key areas: (1) Parental caregiver/Parental support, (2) Care setting practices and policies, (3) Creating a safe & supportive environment, (4) Managing environmental stressors, and (5) Emotional support. Participants rated items on a 5-point Likert scale from 1 (Almost Never) to 5 (Almost Always).

Parent Satisfaction: Parent satisfaction was measured using a modified version of the Parent Satisfaction Scale developed by Adawudu¹. The researcher excluded sections regarding expectations and general experience to focus specifically on nursing care satisfaction. The final instrument consisted of 23 items covering five domains: (1) Assessment and monitoring, (2) Communication, (3) Patient and family education, (4) Psychosocial support, and (5) Medication administration. Items were rated on a 5-point Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree).

Interpretation of scale scores: For all three instruments, the interpretation of mean scores was standardized by the researchers using the equal-interval method for a 5-point Likert scale, with an interval width of 0.80 ($(5-1)/5=0.80$). Mean scores were interpreted as follows: 1.00–1.80 = Not Practiced/Not Satisfied; 1.81–2.60 = Less Practiced/Less Satisfied; 2.61–3.40 = Moderately Practiced/Moderately Satisfied; 3.41–4.20 = Practiced/Satisfied; and 4.21–5.00 = Highly Practiced/Highly Satisfied. This standardized interpretation was established to ensure consistency across all three study variables because the original instruments were modified for the present study and did not provide a uniform framework for interpreting mean scores.

The three instruments were translated from English into Vietnamese using a standardized translation and cultural adaptation process. The initial translation was performed by the research team and subsequently reviewed by a panel of four nursing experts with doctoral qualifications and strong English proficiency to ensure semantic, conceptual, and cultural equivalence. The experts refined ambiguous wording and adapted

the items to the Vietnamese healthcare context. The Vietnamese version was then pilot-tested with 30 participants to assess clarity, comprehensibility, and cultural appropriateness before being used in the main study.

Validity and reliability: Content validity was established through a rigorous review by four nursing experts holding Doctorate degrees in Nursing Management. A pilot test with 30 participants confirmed high internal consistency for all scales, with Cronbach's Alpha values of 0.939 for Discharge Planning (12 items), 0.965 for Family-Centered Care (20 items), and 0.967 for Parent Satisfaction (23 items).

Data collection methods: The researcher utilized four trained research assistants (two holding Bachelor's and two holding Master's degrees in Nursing) to facilitate recruitment and data gathering. Assistants identified eligible caregivers from daily discharge lists and approached them in a respectful manner. To mitigate social desirability bias where participants might over-report satisfaction to maintain relationships with staff the study ensured total anonymity by having respondents return completed questionnaires in sealed envelopes.

Data analysis: Data analysis was performed using Jamovi statistical software (version 2.6.44). The Shapiro-Wilk test was initially conducted to assess data normality. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize participant profiles and variable statuses. Pearson's r was employed for correlation analysis, and mediation analysis (Standard Delta method) was utilized to evaluate the role of FCC in the relationship between discharge planning and satisfaction

Ethical considerations: This study received ethical approval from the Institutional Ethics Review Committee of Trinity University of Asia, Philippines (Approval No. TUA-IERC-015-R02; June 20, 2025). All participants provided written informed consent after a detailed briefing on the study's purpose, their right to voluntary participation, and their freedom to withdraw at any stage without repercussion. Participant confidentiality was protected through data anonymization, secure storage of research records, and restricted access to study data.

RESULT

Table 1. Socio-demographic characteristics of parents of pediatric patients (n = 400)

Characteristic		Frequency (n)	Percentage (%)
Marital Status	Married	384	96.0
	Divorced	16	4.0
Highest Educational Attainment	Secondary school	41	10.3
	High school	185	46.3
	College/ University	174	43.4
Employment Status	Employed	229	57.3
	Self-employed	151	37.7
	Unemployed	20	5.0
Age (years)		Mean: 35.6 ± 5.03	

Table 1 presents the socio-demographic characteristics of the 400 parents of pediatric patients. The study participants were predominantly married, with a relatively high educational background, as nearly nine in ten had completed at least high school education. Most parents were economically active through either formal employment or self-employment, while unemployment was uncommon. The mean age of participants was 35.6 years (SD = 5.03), indicating a relatively young to middle-aged caregiver population.

Table 2. Parents' perceived quality of discharge planning care in pediatric patients (n = 400)

Domain / Item	Mean	SD	Interpretation
I was informed about the follow-up plans after discharge	3.7	0.497	Agree
I received a clear discharge summary from the care team	4.08	0.777	Agree
The family was informed about how to contact the care team after discharge to ensure the child's safety.	3.86	0.713	Agree
Follow up appointments	3.88	0.556	Practiced

Domain / Item	Mean	SD	Interpretation
The discharge goals for my child were clearly established	4.06	0.458	Agree
My child's needs were documented in the discharge plan	3.21	0.45	Neutral
Discharge information (e.g., medications, equipment) was provided accurately and completely	4.06	0.648	Agree
Discharge documents were adequately exchanged between the family and service providers	3.98	0.374	Agree
The family was guided on how to care for the post-discharge care plan	4.32	0.64	Strongly Agree
I felt supported throughout the discharge process	4.67	0.511	Strongly Agree
Family preparation and support	4.05	0.283	Practiced
I have been provided with sufficient information about post-discharge care (through brochure)	2.05	0.425	Disagree
I understood my role in the post-discharge care process	3.46	0.504	Agree
I feel confident about my child's health status after discharge	4.15	0.503	Agree
Lifestyle changes	3.22	0.297	Moderately Practiced
Overall Discharge Planning Care	3.72	0.294	Practiced

Note: Interpretation is based on a 5-point Likert scale: 1.00–1.80 = Strongly Disagree/Not Practiced; 1.81–2.60 = Disagree/Less Practiced; 2.61–3.40 = Neutral/Moderately Practiced; 3.41–4.20 = Agree/Practiced; 4.21–5.00 = Strongly Agree/Highly Practiced.

Table 2 presents parents' perceptions of discharge planning care for pediatric patients. Overall, the total mean score indicated that discharge planning care was perceived as "Practiced" ($M = 3.72$, $SD = 0.29$).

Among the three domains, "Family Preparation and Support" obtained the highest mean score ($M = 4.05$, $SD = 0.28$), reflecting generally positive evaluations of communication and support during the discharge process. In particular, parents reported high levels of agreement regarding being guided on post-discharge care ($M = 4.32$) and feeling supported throughout the discharge process ($M = 4.67$).

The "Lifestyle Changes" domain recorded the lowest mean score ($M = 3.22$, $SD = 0.30$), indicating only a moderate level of perceived support. Notably, provision of brochure-based discharge information received the lowest item score ($M = 2.05$), suggesting insufficient written educational materials provided to parents.

Within the "Follow-up Appointments" domain, parents generally reported favorable perceptions, with item means ranging from 3.70 to 4.08.

Table 3. Parents' perceived family-centered care in pediatric nursing services (n = 400)

Domain / Item	Mean	SD	Interpretation
My child's provider supports my role in care decisions	3.99	0.112	Usually
We set treatment goals together with the nurse	3.23	0.447	Sometimes
I feel comfortable voicing concerns about care recommendations	3.89	0.316	Usually
Parental caregiver/Parental support	3.70	0.204	Usually
The nurse discusses ways to promote my child's health	3.25	0.572	Sometimes
My child's provider helps explain medical tests and treatments	3.63	0.482	Usually
The nurse offers follow-up care options in familiar settings	3.02	0.466	Sometimes
The nurse asks what is working well in my child's care	3.54	0.499	Usually
Care setting practices and policies	3.36	0.269	Sometimes
C8. The nurse acknowledges my strengths as a caregiver	3.34	0.48	Sometimes
C9. We adjust the care plan together when challenges arise	2.17	0.376	Rarely
The nurse asks about my emotional well-being in caring for my child	3.28	0.448	Sometimes
We discuss issues affecting our family's well-being	3.15	0.364	Sometimes
Creating a safe & supportive environment	2.98	0.19	Sometimes
The nurse provides strategies to help manage stress in our home environment	2.36	0.505	Rarely
We discuss ways to create a calming space for my child during treatment	2.35	0.507	Rarely
The nurse offers resources for managing caregiver fatigue and stress	3.9	0.294	Usually
We talk about how external factors (like school or community) may impact my child's health and well-being	4.78	0.413	Almost Always
Managing environmental stressors	3.35	0.278	Sometimes
The nurse respects our family's beliefs in care planning	3.56	0.498	Usually
The nurse asks about incorporating alternative healing methods	3.61	0.488	Usually

Domain / Item	Mean	SD	Interpretation
The nurse helps me access community services after discharge (depending on the condition, such as physiotherapy, wound care, vaccinations)	3.8	0.401	Usually
The nurse informs me about resources for costs not covered by insurance	3.83	0.383	Usually
The nurse explains my child's medical records clearly	3.23	0.463	Sometimes
Emotional support	3.61	0.215	Usually
Overall Family-Centered Care	3.40	0.11	Sometimes

Note: Interpretation based on a 5-point Likert scale: 1.00–1.80 = Almost Never; 1.81–2.60 = Rarely; 2.61–3.40 = Sometimes; 3.41–4.20 = Usually; 4.21–5.00 = Almost Always.

Table 3 presents parents' perceptions of family-centered care in pediatric nursing services. The overall mean score indicated that family-centered care was perceived at a "Sometimes" level ($M = 3.40$, $SD = 0.11$).

Among the five domains, "Emotional and System Support" obtained the highest mean score ($M = 3.61$, $SD = 0.21$), suggesting relatively positive perceptions regarding respect for family values, access to community services, and financial-related information. In contrast, "Creating a Safe and Supportive Environment" recorded the lowest mean score ($M = 2.98$, $SD = 0.19$), indicating limitations in emotional engagement and shared decision-making processes.

At the item level, the lowest scores were observed in care plan adjustment during clinical challenges ($M = 2.17$) and stress management strategies in the home environment ($M = 2.36$). Conversely, the highest score was reported for discussion of external factors affecting child health and well-being ($M = 4.78$), indicating strong awareness of contextual influences in care.

Table 4. Parents' satisfaction with nursing care in pediatric hospitalization (n = 400)

Statements	Mean	SD	Interpretation
The nurse provided clear explanations about my child's treatment.	3.38	0.526	Neutral
The nurses show a caring attitude towards my child.	4.33	0.635	Strongly Agree
The nurses are responsive when my child needs assistance	4.38	0.593	Strongly Agree
The ward is well-organized for my child's care	4.35	0.643	Strongly Agree
Nurses are consistently available to care for my child.	4.23	0.787	Strongly Agree
Assessment and monitoring	4.14	0.525	Satisfied

Statements	Mean	SD	Interpretation
I believe my child will receive excellent care in this facility	3.76	0.426	Agree
The nurses treat my child with kindness	3.63	0.482	Agree
Overall, receiving care here can be stressful for my family	3.61	0.488	Agree
I would continue to seek care for my child at this facility	3.4	0.489	Neutral
Communication	3.60	0.306	Satisfied
I appreciate when nurses are kind and approachable.	3.73	0.453	Agree
I value nurses who are responsive and knowledgeable about their work	3.24	0.429	Neutral
Effective communication about my child's nursing care is important to me	3.16	0.383	Neutral
I feel it is essential for nurses to respect my beliefs and values	3.67	0.472	Agree
Clear information about medications and treatment procedures is important	3.98	0.459	Agree
I appreciate when nurses maintain a friendly and polite demeanor	3.31	0.461	Neutral
Patient and family education	3.51	0.199	Satisfied
The nurses welcomed me satisfactorily upon admission	3.78	0.415	Agree
Nurses listened to my concerns and worries attentively	3.69	0.464	Agree
Nurses treated me as an individual and respected my privacy	3.33	0.473	Neutral
The information provided about my child's condition and treatment was clear	3.87	0.672	Agree
The nursing care I received helped reduce my anxiety and stress	3.34	0.473	Neutral
Psychosocial support	3.60	0.284	Satisfied
The nurses clearly explained the purpose and dosage of my child's medications	3.94	0.238	Agree
I feel confident in the nurses' ability to manage my child's medication schedule	3.92	0.272	Agree
The nurses provide information on potential side effects of my child's medications	3.98	0.14	Agree
Medication administration	3.95	0.163	Satisfied
Overall Caregiver Satisfaction	3.76	0.188	Satisfied

Note. Interpretation based on a 5-point Likert scale: 1.00–1.80 = Strongly Disagree/Not Satisfied; 1.81–2.60 = Disagree/Less Satisfied; 2.61–3.40 = Neutral/Moderately Satisfied; 3.41–4.20 = Agree/Satisfied; 4.21–5.00 = Strongly Agree/Highly Satisfied.

Table 4 presents parents' satisfaction with nursing care during pediatric hospitalization. The overall satisfaction score indicated that parents were generally "Satisfied" with nursing care ($M = 3.76$, $SD = 0.19$).

Among the domains, "Assessment and Monitoring" obtained the highest mean score ($M = 4.14$, $SD = 0.53$), reflecting strong perceptions of nurses' responsiveness, caring attitude, and availability. In particular, items related to nurses' caring behavior ($M = 4.33$) and responsiveness to children's needs ($M = 4.38$) received the highest ratings.

"Medication Administration" also demonstrated high satisfaction ($M = 3.95$, $SD = 0.16$), with parents reporting clear explanations regarding medication use and side effects.

In contrast, lower scores were observed in items related to communication clarity ($M = 3.38$) and intention to return for care ($M = 3.40$), suggesting areas requiring improvement in communication and patient engagement.

Table 5. Association between parents' socio-demographic characteristics and satisfaction with nursing care (n = 400)

Variables	Unsatisfied n (%)	Satisfied n (%)	Statistical test	p-value
Marital status, n (%)			Fisher's Exact Test	1.000
Married	321 (83.6)	63 (16.4)		
Divorced	16 (100.0)	0 (0.0)		
Highest educational attainment, n (%)			$\chi^2 = 6.54$	0.038*
Secondary school	29 (70.7)	12 (29.3)		
High school	157 (84.9)	28 (15.1)		
College/University	151 (86.8)	23 (13.2)		
Employment status, n (%)			$\chi^2 = 3.26$	0.196
Employed	194 (84.7)	35 (15.3)		
Self-employed	129 (85.4)	22 (14.6)		
Unemployed	14 (70.0)	6 (30.0)		
Age (years), Median (IQR)	36 (32–39)*	35 (34–38)*	Mann–Whitney U = 1191	0.542

Note: *Values are presented as median (IQR) for continuous variables and n (%) for categorical variables.

Age was compared using the Mann–Whitney *U* test because it was not normally distributed (Shapiro–Wilk $p < 0.001$). Fisher's Exact Test was used for marital status because of sparse cell frequencies. Pearson's Chi-square test was used for highest educational attainment and employment status. Statistical significance was set at $p < 0.05$.

Note. Chi-square test was used to examine associations between socio-demographic variables and parents' satisfaction with nursing care. Statistical significance was set at $p < 0.05$.

Table 5 presents the association between parents' socio-demographic characteristics and satisfaction with nursing care. Among the variables examined, only highest educational attainment showed a statistically significant association with satisfaction ($\chi^2 = 6.54$, $p = 0.038$).

Table 6. Pearson correlation between discharge planning care and parents' satisfaction with nursing care (n = 400)

Satisfaction domains			Follow up appointments	Family preparation and support	Lifestyle changes	Total Discharge planning
Assessment and Monitoring	and	r	-0.059	-0.119*	-0.235***	-0.154**
Communication		r	-0.103*	-0.149**	-0.112**	-0.151**
Patient and Family Education		r	0.145**	0.149**	0.038	0.152**
Psychosocial support		r	0.2	0.078	0.095	0.183
Medication administration		r	-0.123	0.064	-0.178	-0.116
Parents' satisfaction		r	0.04	0.012	0.004	0.03

Note. *r*: Pearson's Correlation Coefficient; $p < 0.05^*$; $p < .01^{**}$; $p < 0.001^{***}$

Table 6 presents the correlations between discharge planning care and parents' satisfaction with nursing care. Overall, most correlations were statistically significant but weak in magnitude.

Negative correlations were observed between discharge planning domains and satisfaction dimensions, particularly in assessment and monitoring (r ranging from -.119 to -.235, $p < 0.05$) and communication (r ranging from -0.103 to -0.151, $p < 0.05$).

In contrast, positive correlations were identified between patient and family education and satisfaction domains ($r = 0.145$ to 0.152 , $p < 0.01$), as well as between psychosocial support and overall satisfaction ($r = 0.183$, $p < 0.001$), indicating that educational and emotional support components were positively associated with perceived care quality.

Notably, total caregiver satisfaction was not significantly correlated with discharge planning domains.

Table 7. Correlation between family-centered care and parents' satisfaction with nursing care (n = 400)

FCC domains		Assessment and monitoring	Communication	Patient and family education	Psychosocial support	Medication administration	Total caregiver satisfaction
Parental Support in Care Decisions	r	0.048	-0.097	0.097	0.146**	0.09	0.049
Care Setting Practices and Policies	r	-0.263***	0.134**	-0.251***	-0.43***	-0.045	-0.256***
Creating a Safe & Supportive Environment	r	0.034	0.006	-0.159**	-0.308***	0.067	-0.028
Managing environmental stressors	r	-0.151**	0.088	0.029	-0.097	0.212***	0.033
Emotional support	r	0.032	-0.286***	0.516***	0.185***	-0.063	0.219***
Total Family-Centered Care	r	-0.163	-0.036	0.075	-0.239***	0.117*	-0.014

Note. *r*: Pearson's Correlation Coefficient; $p < 0.05^*$; $p < 0.01^{**}$; $p < 0.001^{***}$

Table 7 presents the correlations between family-centered care and parents' satisfaction with nursing care. Overall, the associations were mixed, with both positive and negative correlations observed across domains.

The emotional support domain showed the most consistent positive associations with satisfaction, particularly with patient and family education ($r = 0.516$, $p < 0.001$) and overall satisfaction ($r = 0.219$, $p < 0.001$).

In contrast, the care setting practices and policies domain demonstrated significant negative correlations with multiple satisfaction dimensions, including psychosocial support ($r = -0.430$, $p < 0.001$) and overall satisfaction ($r = -0.256$, $p < 0.001$).

Similarly, creating a safe and supportive environment was negatively associated with patient and family education ($r = -0.159$, $p = 0.001$) and psychosocial support ($r = -0.308$, $p < 0.001$).

Notably, the total family-centered care score showed a significant negative correlation with assessment and monitoring ($r = -0.163$, $p = 0.001$), while its association with overall satisfaction was not statistically significant ($r = -0.014$, $p = 0.776$), suggesting that family-centered care, as currently implemented, may not directly translate into higher overall satisfaction.

Table 8. Mediation analysis of family-centered care in the relationship between discharge planning and parents' satisfaction with nursing care (n = 400)

Path	Estimate	95% CI		β	p-value
Indirect effect (DP $\rightarrow$ FCC $\rightarrow$ Satisfaction)	0.002	-0.031	0.036	0.00178	0.898
DP $\rightarrow$ FCC	-0.099	-0.134	-0.064	-0.26594	<0.001
FCC $\rightarrow$ Satisfaction	-0.022	-0.360	0.316	-0.00667	0.898
Direct effect (DP $\rightarrow$ Satisfaction)	0.036	-0.090	0.162	0.02866	0.580
Total effect (DP $\rightarrow$ Satisfaction)	0.038	-0.084	0.159	0.03043	0.543

Note. DP = Discharge Planning; FCC = Family-Centered Care . Confidence intervals computed with method: Standard (Delta method). Betas are completely standardized effect sizes

Table 8 presents the mediation analysis examining the relationship between discharge planning, family-centered care, and parents' satisfaction with nursing care. The results indicate that the indirect effect through family-centered care was not statistically significant ($\beta = 0.0018$, $p = 0.898$), suggesting no mediation effect.

Similarly, discharge planning showed no significant direct or total effect on parents' satisfaction ($p > 0.05$). However, discharge planning was significantly negatively associated with family-centered care ($\beta = -0.266$, $p < 0.001$), while family-centered care was not significantly associated with satisfaction ($p = 0.898$).

DISCUSSION

The primary findings of this study suggest that while caregivers in the Southwestern region of Vietnam report high levels of satisfaction with inpatient nursing care, there is a discernible disconnect between clinical task efficiency and the relational empowerment of the family unit. Caregivers expressed general contentment with the acute technical dimensions of care, particularly regarding assessment, monitoring, and the professional caring attitude of the nursing staff. However, the implementation of family-centered care (FCC) remains inconsistent, characterized as occurring only "sometimes" within the institutional landscape. A critical finding

is the systemic deficiency in informational empowerment through written educational materials and the lack of collaborative care planning. While technical instructions regarding medication were perceived as clear, the transition to home care was marked by a lack of structured "red flag" guidance and emotional support strategies. The data indicates a discrepancy between high performance in technical clinical tasks (e.g., medication administration, $M = 3.95$) and low scores in collaborative relational activities (e.g., care plan adjustment, $M = 2.17$). This disparity suggests that nursing care in the studied hospitals may prioritize clinical stability over interactive family engagement⁹.

In comparison with international and regional literature, the satisfaction levels observed in this study (Mean = 3.76) are significantly higher than those reported in other low-income settings, such as the public sector tertiary hospitals in Pakistan where scores were markedly lower ⁹. The demographic profile of a mature, married, and relatively educated caregiver population aligns with European findings, such as those by Terp et al. (2021), suggesting that these caregivers are cognitively prepared to engage with structured healthcare models ¹⁶. However, the lack of sufficient educational brochures (Mean = 2.05) in this study represents a significant departure from findings in Saudi Arabia, where caregivers reported higher knowledge readiness for discharge ¹⁷. Furthermore, the link between educational attainment and satisfaction ($p = 0.038$) mirrors findings by Adal et al. (2022), confirming that caregivers with higher health literacy maintain more critical expectations regarding medical communication and participation in clinical decision-making ¹⁸. The cultural nuance of “familism” in Vietnam, as described by Mien et al. (2021) ¹³, appears to drive the high levels of parental presence, yet this presence does not automatically translate into the strategic partnership envisioned by Western FCC models ^{10,19}.

The most striking and unexpected finding was the significant negative correlation between discharge planning and family-centered care ($\beta = -0.266$, $p < 0.001$). This inverse relationship may reflect the contextual realities of Vietnamese public hospitals, where high patient volumes and bed occupancy often require discharge planning to be implemented as a standardized administrative process to facilitate patient turnover ¹³. In this context, discharge planning may emphasize

procedural completion rather than interactive family engagement ¹³. Consequently, nurses may have fewer opportunities to perform family-centered care activities that require meaningful communication and collaboration, such as acknowledging caregivers’ strengths or discussing emotional and home-based stressors ¹³. This interpretation is supported by the lower scores observed for collaborative activities in the present study, including adjusting care plans when difficulties arise ($M = 2.17$) and providing stress management strategies ($M = 2.36$), compared with technical nursing activities such as medication administration ($M = 3.95$).

Furthermore, discharge planning did not significantly influence caregiver satisfaction through family-centered care, as evidenced by the non-significant indirect effect (Estimate = 0.0022, $p = 0.898$), may also be explained by Meleis’s Transition Theory. According to this framework, the success of a transition is dependent on “environmental conditions” and “nursing therapeutic interventions”; parents may perceive discharge planning as an administrative process that is separate from the nursing care received during hospitalization ¹³. This phenomenological disconnect may explain why family-centered care did not mediate the relationship between discharge planning and caregiver satisfaction in the present study, as the discharge process may not have provided sufficient emotional and collaborative support to influence parents’ overall satisfaction.

These findings have profound implications for both theory and pediatric nursing practice in Vietnam. Theoretically, this study validates the core of Latour’s Satisfaction Framework, which posits that parental needs and experiences are the primary drivers of healthcare evaluation ²⁰.

Clinically, the results suggest the potential value of strengthening the Medication, Education, Training, and Support (METS) framework. The “Rarely” rated categories of collaborative care adjustment (Mean = 2.17) and stress management strategies (Mean = 2.36) highlight that nursing interventions must move beyond technical tasks to prioritize caregiver empowerment^{21, 22}. To address the informational gap, hospitals may consider implementing standardized written “red flag” guidance to supplement oral instructions, which are prone to retention loss. While these findings provide preliminary support for the proposed METS framework, the cross-sectional design of this study does not permit causal inferences. Therefore, strategies such as structured discharge brochures and enhanced family-centered education should be regarded as potential approaches that require further evaluation through longitudinal or interventional studies to determine their effectiveness in improving post-discharge outcomes. Future research should adopt a longitudinal approach to track the impact of these nursing interventions on post-discharge outcomes, such as 30-day readmission rates and long-term parental anxiety. Additionally, exploring the nursing staff’s perspective on barriers to FCC implementation may provide a better understanding of organizational and contextual factors influencing the implementation of family-centered care.

Despite the robustness of the data collected from 400 participants across three general hospitals, this study has several limitations that must be acknowledged. First, the cross-sectional design allows for the identification of correlations but precludes the establishment of definitive causal relationships between discharge planning and caregiver satisfaction.

Second, the use of purposive sampling and the collection of data within the hospital environment may have introduced social desirability bias, as caregivers might have felt inclined to report higher satisfaction to maintain positive relationships with the clinical team during their child’s treatment²³. Third, the study focused exclusively on the perspectives of parental caregivers, omitting the viewpoints of nursing staff and hospital administrators, which are crucial for a 360-degree evaluation of the care environment. Finally, the findings are contextualized to the Southwestern region of Vietnam and may not be fully generalizable to the highly specialized pediatric centers in major metropolitan areas or the resource-limited rural clinics in other regions of the country.

CONCLUSION

This study concludes that while parents of pediatric patients in Southwestern Vietnam reported high satisfaction with acute clinical tasks and medication administration, the findings suggest a gap in the relational aspects of family-centered nursing care. A primary finding of this study is that Family-Centered Care (FCC) did not significantly mediate the relationship between discharge planning and caregiver satisfaction ($p = 0.898$). This lack of mediation, together with the significant inverse relationship between discharge planning and FCC ($\beta = -0.266$, $p < 0.001$), may indicate that discharge planning is perceived as a process separate from the relational aspects of nursing care. Furthermore, caregiver satisfaction was significantly associated with educational attainment ($p = 0.038$), suggesting that health literacy may influence how nursing services are perceived and evaluated.

Based on these findings, the proposed Medication, Education, Training, and Support (METS) framework may provide

a useful approach for strengthening the integration of discharge planning and family-centered care. Given the cross-sectional nature of this study, these recommendations should be interpreted with caution and require further evaluation through longitudinal or interventional research. Hospitals may consider implementing standardized pediatric discharge protocols that incorporate FCC principles, including written educational materials (e.g., discharge brochures), bedside teach-back sessions to reinforce caregiver understanding, and early post-discharge follow-up. Such strategies may help strengthen caregivers' preparedness for home care and enhance the continuity of pediatric nursing care.

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