

## Pediatric Nurses' Views on Malpractice: A Qualitative Study

*Pediatric Hemşirelerinin Malpraktise İlişkin Görüşleri: Nitel Bir Çalışma*

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### ABSTRACT

**Objective:** This study was conducted to identify pediatric nurses' perceptions and experiences related to malpractice and to elucidate the factors that increase the risk of error at clinical, individual, and organizational levels.

**Material and Method:** This study was designed as a qualitative descriptive study using conventional content analysis to explore pediatric nurses' perceptions and experiences related to malpractice. A qualitative descriptive approach was chosen to obtain a comprehensive summary of participants' views expressed in everyday language without imposing a pre-existing theoretical framework.

**Results:** The analysis revealed a multidimensional framework underlying pediatric malpractice risk, with medication and dosage errors identified by nurses as the most critical domain. Participants reported that deficiencies in close monitoring, lapses in isolation and infection control, and procedural safety concerns create fertile ground for errors. Furthermore, excessive workload, staffing shortages, and prolonged working hours were characterized as core organizational factors that undermine clinical vigilance and decision-making processes. Lack of experience and inadequate in-service training also emerged as key elements adversely affecting the sustainability of safe care in pediatric settings.

**Conclusion:** Pediatric malpractice arises not solely from individual practice errors but from the interplay of children's physiological vulnerability, the complexity of clinical processes, and institutional structural conditions. The findings underscore the need to strengthen pediatric-specific in-service training, ensure workload-staffing balance, and systematically foster a culture of patient safety within institutions.

**Keywords:** *Pediatric nursing, Medication errors, Patient safety, Qualitative research*

### ÖZET

**Giriş:** Bu çalışma, pediatri hemşirelerinin malpraktise ilişkin algı ve deneyimlerini belirlemek ve klinik, bireysel ve örgütsel düzeylerde hata riskini artıran faktörleri ortaya koymak amacıyla yürütülmüştür.

**Materyal ve Metot:** Araştırma, pediatri hemşirelerinin malpraktise ilişkin algı ve deneyimlerini incelemek üzere geleneksel içerik analizi kullanılan nitel betimleyici bir çalışma olarak tasarlanmıştır. Nitel betimleyici yaklaşım, önceden belirlenmiş bir kuramsal çerçeve dayatılmaksızın, katılımcıların görüşlerinin gündelik dilde ifade edildiği şekliyle kapsamlı bir özet elde etmek amacıyla tercih edilmiştir.

**Bulgular:** Analiz sonucunda, pediatrik malpraktis riskinin altında yatan çok boyutlu bir yapı ortaya konmuş; hemşireler tarafından en kritik alanın ilaç ve doz hataları olduğu belirtilmiştir. Katılımcılar, yetersiz yakın izlem, izolasyon ve enfeksiyon kontrolündeki aksaklıklar ile girişimsel güvenliğe ilişkin sorunların hata oluşumu için elverişli bir zemin oluşturduğunu ifade etmiştir. Ayrıca aşırı iş yükü, personel yetersizliği ve uzun çalışma saatleri; klinik dikkat ve karar verme süreçlerini zayıflatan temel örgütsel faktörler olarak tanımlanmıştır. Deneyim eksikliği ve hizmet içi eğitimin yetersizliği de pediatrik ortamlarda güvenli bakımın sürdürülebilirliğini olumsuz etkileyen önemli unsurlar olarak ortaya çıkmıştır.

**Sonuç:** Pediatrik malpraktis yalnızca bireysel uygulama hatalarından kaynaklanmamakta; çocukların fizyolojik kırılganlığı, klinik süreçlerin karmaşıklığı ve kurumsal yapısal koşulların etkileşimi sonucunda ortaya çıkmaktadır. Bulgular, pediatriye özgü hizmet içi eğitimlerin güçlendirilmesi, iş yükü-personel dengesinin sağlanması ve kurumlarda hasta güvenliği kültürünün sistematik olarak geliştirilmesi gerekliliğini vurgulamaktadır.

**Anahtar kelimeler:** *Pediatric hemşireliği, Malpraktis, Pediatrik malpraktis*

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## INTRODUCTION

Malpractice is a term denoting erroneous practice that encompasses all professional disciplines. In the context of human health, the designation medical malpractice is employed, with its Turkish equivalent defined as medical practice errors (Yıldırım, 2012). Patient safety comprises the entirety of measures implemented to avert harm to individuals receiving healthcare services and constitutes a fundamental and primary prerequisite for high-quality healthcare delivery (Ersun et al., 2013). Medical errors may be classified in two distinct ways: according to their underlying causes (failure to perform the correct procedure, incorrect execution of the correct procedure) or according to error types (medication errors, surgical errors, diagnostic errors, system-related failures, infections, patient falls, erroneous blood transfusions, and the like) (Larson and Elliott, 2009; Intepeler and Dursun, 2012).

Nurses' excessive workload, shift-based scheduling, extended working hours, inadequate staffing levels in clinical settings, inappropriate institutional policies, an overabundance of procedures, and equipment-related malfunctions collectively prevent the allocation of sufficient time to patients and hinder the adequate application of care standards. Stress arising from patient-related challenges, fatigue, and intense occupational pressure contribute to the occurrence of medical errors (Berland et al., 2008; Dikmen et al., 2014). Multiple factors are believed to precipitate malpractice, including deficiencies in theoretical and clinical skills training during nursing/midwifery education, inadequate updating of professional knowledge, prolonged working hours, shift systems, high patient-to-staff ratios, stress, and insufficient equipment. In Türkiye, between 1992 and 2002, criminal complaints were filed against 159 midwives and 227 nurses, with 27.3% of the nurses ultimately found guilty (Türkmen and Genç, 2017).

Malpractice incidents precipitate a decline in morale and motivation among healthcare professionals, while engendering distrust in healthcare personnel among patients and broader societal dissatisfaction with the healthcare system (Işık et al., 2012). The Ethical Principles and Responsibilities for Nurses, published by the Turkish Nurses Association in 2009, structures its Section I, subsection (a) around the principle of "non-maleficence/beneficence." In essence, it mandates that nurses adhere to this principle both personally and by assuming an advocacy and protective role for patients against potential harm (Türk Hemşireler Derneği, 2009).

Hospitals constitute environments that may pose hazards to infants and children beyond their familiar settings. Physiological and cognitive development proceeds rapidly during childhood, and children remain dependent on adults to meet their health needs—characteristics that render them more

susceptible to medical errors than adults (Büyük et al., 2021).

Therefore, exploring pediatric nurses' perceptions and experiences regarding malpractice is crucial for identifying risk factors and developing strategies to improve patient safety and quality of care in pediatric settings.

## MATERIAL and METHOD

This study aims to explore the experiences and perceptions of pediatric nurses working in a tertiary-level public university hospital located in Van city center, Türkiye, regarding malpractice, contributing factors, and recommendations for improvement.

### Ethical Considerations

Ethical approval for the study was obtained from the Non-Interventional Research Ethics Committee of Van Yuzuncu Yil University (Date: 20/09/2024, Decision No: 2024/10/11). Participation was voluntary and informed consent was obtained from all participants prior to data collection. Participants were informed about the purpose of the study and assured that their responses would remain confidential and used only for scientific purposes.

### Participants

The study participants consisted of 55 nurses employed across various pediatric wards of a tertiary-level public university hospital located in Van city center, Türkiye. Participants were selected using purposive sampling, and participation was voluntary. Professional experience among participants ranged from 1 to 20 years. Inclusion criteria included active duty in a pediatric ward and voluntary consent to participate in the study.

### Data Collection

In this study, participants were selected using purposive sampling. Consistent with the nature of qualitative research (Patton, 2002), information-rich cases were chosen to enable in-depth exploration of the phenomenon. Interviews continued until data saturation was achieved—the point at which further interviews yielded no new content and responses became repetitive—serving as the criterion for discontinuing sampling (Guest et al., 2006).

Data were collected through face-to-face data collection sessions using a semi-structured form developed based on the literature (Ersun et al., 2013; Yiğitbaş et al., 2016; Baştürk Külahlı and Çınar Pakyüz, 2024). The form consisted of five open-ended questions designed to explore nurses' experiences and perceptions regarding malpractice. An example of the interview questions is provided in the attached file. Data collection was conducted in locations mutually agreed upon by the researcher and the participants.

Participants were asked to provide detailed written responses based on their clinical experiences. This

approach enabled the collection of rich, experience-based textual data relevant to pediatric malpractice. Each data collection session lasted approximately 30 minutes.

Written responses were preferred to allow participants to express their experiences comfortably and anonymously. Considering the demanding working schedules of nurses, this approach also facilitated participation and enabled nurses to provide thoughtful responses based on their clinical experiences.

### Data Analysis

Data were analyzed using conventional content analysis. Initially, all written responses were read repeatedly to gain an overall understanding of pediatric nurses' perceptions of malpractice. Meaningful units were then identified and coded. Similar codes were grouped into categories, and these categories were abstracted into themes. Rather than analyzing responses to each question separately, the data set was examined as an integrated whole to identify shared patterns of meaning across participants. Throughout the analysis process, constant comparison was used to refine codes and ensure consistency across categories and themes. To enhance analytic rigor, each theme was supported by illustrative quotations from multiple participants.

### Researcher Characteristics and Reflexivity

The research team consisted of one pediatric nursing academic and one clinical nurse with professional experience in pediatric care. The researchers did not have a direct supervisory or managerial relationship with the participants. To minimize potential bias, a neutral and non-judgmental approach was maintained throughout the data collection and analysis processes. Participants were encouraged to express their views freely and honestly. Coding and theme development were independently reviewed by both researchers, and discrepancies were discussed until consensus was reached in order to enhance analytical rigor and credibility.

### Trustworthiness of the Study

The trustworthiness of the study was ensured using established qualitative rigor strategies. Credibility was supported by prolonged engagement with the data, repeated reading of all written responses, and the use of direct quotations to reflect participants' perspectives. To enhance dependability, the data analysis process was conducted systematically, and codes and themes were reviewed and refined through researcher discussion. Confirmability was strengthened by maintaining consistency between the

data, codes, and themes, ensuring that the findings were grounded in participants' written responses rather than researchers' assumptions. Data saturation was considered achieved when no new themes or meanings emerged from the data.

### RESULTS

According to Table 1, the majority of participants were female ( $n = 35, 63.6\%$ ). Participants over 40 years of age ( $n = 13, 23.6\%$ ) constituted a lower proportion, suggesting that pediatric clinics are predominantly sustained by a younger workforce. The majority of nurses were married ( $n = 33, 60.0\%$ ), and more than half had no children ( $n = 30, 54.5\%$ ). This finding suggests that parenthood does not restrict the preference for working in the pediatric field. Although the proportion of nurses with children was substantial (45.5%), a trend toward decreased employment in pediatric clinics was observed as the number of children increased. With regard to educational attainment, approximately half of the participants held a bachelor's degree ( $n = 22, 40.0\%$ ), followed by those with an associate degree ( $n = 14, 25.5\%$ ) and high school graduates ( $n = 12, 21.8\%$ ). The proportion of nurses with graduate education was limited to 12.7% ( $n = 7$ ). This result indicates that pediatric care in this study was predominantly delivered at the bachelor's degree level, with advanced specialty training remaining limited. The majority of participants had 1–5 years ( $n = 22, 40.0\%$ ) or 5–10 years ( $n = 20, 36.4\%$ ) of experience in pediatric clinics. Those with  $\geq 10$  years of experience were fewer ( $n = 13, 23.6\%$ ). This finding indicates a predominance of mid-level experience within the pediatric field. Upon examination of overall professional tenure, the majority of participants had 5–10 years ( $n = 24, 43.6\%$ ) or  $\geq 10$  years ( $n = 17, 30.9\%$ ) of experience. Only 25.5% ( $n = 14$ ) had been in the profession for 1–5 years. This profile indicates that nurses working in pediatrics possess a robust professional experience base. The demographic composition suggests that nurses' perceptions of pediatric malpractice are shaped particularly by experience, educational attainment, and parental status. The fact that more than half of the participants hold a bachelor's degree and possess mid-to-high levels of professional experience supports the notion that the qualitative findings of this study were informed by clinical reality and practical expertise. Conversely, the low rate of graduate education points to limited opportunities for specialization and advanced training in pediatric nursing.

Content analysis of the 55 pediatric nurses' responses in this study yielded six main themes and 27 subthemes related to malpractice.

**Table 1.** Demographic characteristics of the participants

Variable	Category	n	%
<b>Gender</b>	Female	35	63.6
	Male	20	36.4
<b>Age</b>	18–26	12	21.8
	27–40	30	54.5
	40+	13	23.6
<b>Marital Status</b>	Married	33	60.0
	Single	22	40.0
<b>Number of Children</b>	0	30	54.5
	1	11	20.0
	≥2	14	25.5
<b>Education Level</b>	High school	12	21.8
	Associate degree	14	25.5
	Bachelor’s degree	22	40.0
	Graduate degree	7	12.7
<b>Duration of Employment in Pediatric Clinics</b>	1–5 years	22	40.0
	5–10 years	20	36.4
	≥10 years	13	23.6
<b>Duration of Professional Experience</b>	1–5 years	14	25.5
	5–10 years	24	43.6
	≥10 years	17	30.9

**Theme 1: Pediatric Medication and Dosage Errors (n = 38, 69.1%)**

The prominence of medication and dosage errors in participants’ accounts indicates that pediatric nurses perceive medication management as the most vulnerable component of pediatric care. This perception appears to stem from the inherent complexity of weight-based dosing, the necessity for precise calculations, and the limited physiological tolerance of pediatric patients to even minor deviations in medication administration. The emphasis placed on administration routes, infusion duration, and medication similarity further suggests that nurses view medication-related malpractice not as isolated individual mistakes, but as a multifactorial risk embedded within routine clinical workflows.

**Subtheme 1.1: Dosage Calculation Errors (n = 22, 40%)**

Pediatric dosing is weight-based, and participants emphasized that even minor miscalculations pose significant risks. (Code: incorrect kg/age calculation P6; volume miscalculation P52)

“An overdose can leave permanent sequela in a child.” (P6)

“When an underdose is administered, the patient derives no benefit from the treatment.” (P52)

**Subtheme 1.2: Administration Route/Infusion Errors (n = 18, 32.7%)**

Some participants argued that incorrect route, rate, or timing of administration can precipitate severe complications.

“Even the wrong timing or infusion duration can be critical.” (P22)

“Erroneous IV administration can cause permanent damage.” (P35)

**Subtheme 1.3: Confusion of Similarly Packaged Medications (n = 17, 30.9%)**

Participants identified visual similarity in packaging as a key trigger for medication errors.

“It is crucial to distinguish medications with similar packaging.” (P19)

“The wrong drug can be administered due to similar appearance.” (P6)

**Subtheme 1.4: Allergic Reactions / Organ Toxicity (n = 14, 25.5%)**

Certain participants noted that incorrect dosing or unknown allergy histories can lead to fatal outcomes.

“If the dose is too high, an allergic reaction may develop.” (P12)

“A reaction occurred because no allergy test was performed.” (P35)

**Subtheme 1.5: Risk of Inadequate/Ineffective Treatment (n = 15, 27.3%)**

A portion of participants maintained that underdosing can result in treatment failure.

"When an underdose is administered, the patient derives no benefit from the treatment." (P52) "Low dosing reduces the treatment's efficacy." (P19)

Overall, this theme underscores that medication administration in pediatric patients involves multifaceted decision-making processes, wherein even seemingly minor procedural or calculation errors can precipitate serious clinical consequences.

**Theme 2: Monitoring, Observation, and Procedural Safety (n = 24, 43.6%)**

Participants' emphasis on monitoring and observation failures suggests that pediatric nurses perceive malpractice risk as closely linked to ongoing clinical vigilance rather than single procedural mistakes. The identification of vascular access complications, positioning errors, delayed detection of pressure ulcers, and breaches in isolation practices indicates that errors in pediatric care often emerge gradually through missed cues and insufficient surveillance. This finding reflects the heightened dependency of pediatric patients on continuous monitoring and the critical role of nurses' sustained attentiveness in preventing harm.

**Subtheme 2.1: Deficient Close Monitoring (n = 24, 43.6%)**

This subtheme posits that failure to perform close monitoring may delay the detection of complications.

"Without close monitoring, complications can be overlooked." (P36)

"If the effects of administered treatments are not observed, errors go unnoticed." (P39)

**Subtheme 2.2: Vascular Access and Positioning Errors (n = 17, 30.9%)**

A subset of participants noted that vascular access complications and improper positioning carry a risk of rapid clinical deterioration in children.

"Vascular access issues can lead to errors." (P21)

"Incorrect positioning causes malpractice." (P28)

**Subtheme 2.3: Failure to Detect Pressure Ulcers (n = 11, 20.0%)**

Impaired skin integrity in pediatric patients can rapidly progress to infection and prolonged hospitalization. Consequently, timely detection of pressure ulcers is critical, and participants reported that neglect in this area can precipitate malpractice.

"Failure to detect a pressure ulcer or delayed response to allergy leads to malpractice." (P1)

"Position-related injuries may develop." (P37)

**Subtheme 2.4: Infection Control / Isolation (n = 18, 32.7%)**

This subtheme emphasizes that inadequate infection control and isolation measures can facilitate rapid pathogen transmission. Given the fragility of immune

responses in pediatric patients, failure to properly manage those requiring isolation was identified as heightening risk.

"If isolation is not ensured, existing infections can spread to other patients." (P9)

"If an infected child is not isolated, serious consequences ensue." (P30)

**Subtheme 2.5: Documentation-Reporting Processes (n = 7, 12.7%)**

Participant views in this subtheme suggest that lapses in documentation and incident reporting may perpetuate recurring errors. This underscores the importance of awareness in malpractice reporting.

"I complete the 3K adverse event notification form (patient safety form)." (P2)

"Delayed reporting allows errors to recur." (P43)

This theme reveals that deficiencies in monitoring and procedural management generate substantial risk within the pediatric population.

**Theme 3: Working Conditions and Institutional Factors (n = 29, 52.7%)**

Participants' accounts indicate that pediatric malpractice is perceived not merely as the result of individual negligence, but as a consequence of structurally constrained working conditions. The emphasis on excessive workload, extended shifts, staffing inadequacies, and limited resources suggests that nurses view error occurrence as closely linked to systemic fatigue and diminished cognitive capacity rather than personal incompetence. Furthermore, references to managerial pressure and workplace bullying imply that organizational culture may suppress open communication and discourage error reporting, thereby perpetuating unsafe practices within pediatric care settings.

**Subtheme 3.1: Excessive Workload / Prolonged Shifts (n = 29, 52.7%)**

Participants in this subtheme contended that extended working hours engender inattention and fatigue. This was particularly associated with the neglect of critical procedures, dosage errors, and monitoring failures in pediatric patients.

"Excessive work leads to malpractice." (P30)

"Errors occur due to fatigue." (P27)

**Subtheme 3.2: Staffing / Equipment Shortages (n = 24, 43.6%)**

This subtheme reported that inadequate staffing elevates error risk. An increased patient-to-nurse ratio, compounded by insufficient equipment, was viewed as rendering nursing practices hazardous.

"Inadequate supply of materials." (P9)

"Insufficient staffing is a cause of errors." (P25)

**Subtheme 3.3: Intra-Team Communication and Coordination Issues (n = 15, 27.3%)**

According to participants, breakdowns in team communication result in confusion over task

allocation and disruptions in care continuity. This was linked to errors in dosage calculation, documentation, and patient follow-up.

"Disagreements within the team." (P25)

"If organization and collaboration are lacking, errors occur." (P36)

**Subtheme 3.4: Workplace Bullying and Managerial Pressure (n = 11, 20.0%)**

Pressure in the work environment diminishes nurses' motivation, thereby increasing the likelihood of errors. Nurses experiencing bullying were also reported to refrain from error reporting.

"Bullying is, in my opinion, the most significant cause." (P9)

"I did not report it to avoid causing problems for my colleague." (P26)

These findings demonstrate that malpractice in pediatric nursing care stems not only from individual errors but also from systemic and organizational factors. Structural improvements at the institutional level are deemed necessary to enhance patient safety in child health services.

**Theme 4: Deficiencies in Knowledge, Experience, and Training (n = 21, 38.2%)**

Participants' emphasis on limited experience and insufficient training suggests that pediatric nurses perceive malpractice risk as closely associated with preparedness for pediatric-specific clinical demands. The heightened vulnerability attributed to newly graduated or inexperienced nurses indicates that pediatric care requires not only general nursing competence but also advanced, context-specific knowledge and skills. References to inadequate in-service training and limited opportunities for specialization further imply that institutional investment in continuous professional development is perceived as insufficient to sustain safe pediatric practice.

**Subtheme 4.1: Inexperience (n = 12, 21.8%)**

Lack of clinical experience was argued to increase error risk in fundamental practices.

"Inexperience leads to errors in positioning and dosage calculation." (P32)

"New graduates can make mistakes until they adapt to pediatrics." (P23)

**Subtheme 4.2: Inadequate Orientation (n = 7, 12.7%)**

The view was advanced that failure to provide proper guidance to new staff can trigger errors.

"An error occurred due to insufficient orientation training." (P54)

"New nurses are not given adequate training." (P35)

**Subtheme 4.3: Insufficient In-Service Training (n = 6, 10.9%)**

Participants stated that absence of educational support leads to inadequacy in critical situations.

"Lack of trainers." (P11)

"Periodic training is inadequate." (P44)

**Subtheme 4.4: Deficient Pediatric Knowledge (n = 5, 9.1%)**

It was contended that physiological differences in pediatrics require advanced knowledge.

"Errors in dosing cardiovascular IV medications are irreversible." (P36)

"Medication administration in pediatric patients requires far greater knowledge." (P6)

**Theme 5: Family-Team Communication and Parental Factors (n = 13, 23.6%)**

Participants' references to family-related factors suggest that pediatric nurses perceive malpractice risk as a shared responsibility extending beyond healthcare professionals alone. The emphasis on incomplete medical histories, nonadherence to safety protocols, and nondisclosure of allergy information indicates that breakdowns in family-team communication may compromise clinical decision-making and patient safety. This finding highlights the interdependent nature of pediatric care, in which effective collaboration with families is viewed as integral to preventing errors and ensuring safe practice.

**Subtheme 5.1: Incomplete / Inaccurate History-Taking (n = 6, 10.9%)**

The view was advanced that erroneous history-taking adversely affects treatment decisions.

"Failure to obtain an accurate history leads to misdiagnosis." (P29)

"Incorrect information provided by the caregiver can cause errors." (P44)

**Subtheme 5.2: Nonadherence to Safety Protocols (n = 6, 10.9%)**

Parental noncompliance with measures against falls, contact, or isolation was reported to heighten clinical error risk.

"If the family disregards fall risks, this constitutes malpractice." (P51)

"When families fail to follow safety protocols, problems arise." (P22)

**Subtheme 5.3: Nondisclosure of Allergy History (n = 7, 12.7%)**

It was argued that medication administration becomes hazardous when families withhold allergy information about the child.

"A reaction developed due to lack of allergy testing." (P35)

"When the dose is high, it poses greater risk in a child with allergies." (P12)

**Theme 6: Professional Attitude, Ethics, and Reporting Culture (n = 10, 18.2%)**

Participants' accounts suggest that malpractice risk is perceived as closely linked to professional values and the ethical climate of the institution. References to inattention, lack of empathy, and insufficient

diligence indicate that errors are not viewed solely as technical failures, but also as reflections of professional engagement and moral responsibility. Moreover, the belief that error reporting “yields no results” implies a culture of resignation, in which the absence of meaningful feedback or institutional response may discourage transparency and perpetuate unsafe practices.

**Subtheme 6.1: Lack of Empathy / Diligence (n = 8, 14.5%)**

The view exists that insensitivity diminishes care quality.

“In my opinion, sensitivity and dedication are required.” (P14)

“Individuals who do not value their work make many errors.” (P5)

**Subtheme 6.2: Indifference / Inattention (n = 9, 16.4%)**

This subtheme indicated that routine errors often stem from inattention.

“Inattention.” (P3)

“Inattention causes most errors.” (P15)

**Subtheme 6.3: Reporting Behavior (n = 10, 18.2%)**

This subtheme revealed that some staff avoid error reporting.

“I did not report it to avoid causing problems for my colleague.” (P26)

“I did not report it because it was a minor error.” (P28)

**Subtheme 6.4: Perception of “No Outcome” (n = 9, 16.4%)**

Participants argued that distrust in the reporting system fosters a culture of silence.

“I should report it, but I didn’t because I knew there would be no resolution.” (P41)

“It is forwarded to the relevant authorities, but there is no outcome.” (P43)

## DISCUSSION

This study explored pediatric nurses’ perceptions and experiences related to malpractice and revealed that malpractice risk in pediatric care is perceived as a multidimensional phenomenon rather than the result of isolated individual errors. The findings demonstrate that pediatric nurses conceptualize malpractice as emerging from the interaction between medication-related complexity, continuous monitoring demands, institutional working conditions, professional preparedness, family-team communication, and the ethical climate of healthcare organizations. Taken together, these findings suggest that pediatric malpractice is embedded within everyday clinical practice and shaped by both individual and systemic factors (D’Errico et al., 2022).

In the present study, the majority of participants were female (n = 35, 63.6%). This finding is consistent with the literature indicating the predominance of women in pediatric nursing in Türkiye (Karaarslan et al., 2023; Çinkil and Büyük, 2022).

Children present unique challenges in the processes of medication ordering, preparation, administration, and monitoring. In pediatric practice, the requirement for weight-based dosage calculations for the majority of medications renders the ordering process more complex than in adults and heightens the risk of calculation errors. Furthermore, the frequent preparation of pediatric medications through dilution of stock concentrated solutions by pharmacy services introduces additional error probabilities during distribution. Moreover, young children’s limited communication skills to alert healthcare providers to potential administration errors or adverse effects impede early detection of medical mistakes. Additionally, the restricted physiological reserves of pediatric patients—particularly neonates—diminish the capacity to compensate for errors. Indeed, the cardiovascular system of a premature neonate may fail to tolerate even minimal dosing errors of inotropic agents, resulting in severe clinical deterioration (Kaushal et al., 2001).

In a study by Anselmi and colleagues, incorrect dosing and omitted doses were identified as among the most frequent errors (Anselmi et al., 2007). In research by Tang and colleagues, nurses committed wrong-dose errors in 36.2% of cases and wrong-medication errors in 26.4% (Tang et al., 2007). In the study by Çakmak et al. (2018), nurses most commonly encountered medication errors involving incorrect drugs or doses, attributing these primarily to similarities in drug nomenclature, legibility, or packaging (Çakmak et al., 2017). Another investigation examining the root causes of medication administration errors found the most common issues to be erroneous prescribing, incorrect dosing, inadequate drug monitoring (adverse effects), and mistakes at the point of administration (Aslan, 2020). This literature aligns with our finding that incorrect dosing represents the most frequent error etiology.

Whereas approximately one-third of errors in adults result in harm, life-threatening errors are more probable in pediatric anesthesia. This stems from some anesthetists’ variable exposure to pediatric patients, age and weight variations, and the consequent potential for large-scale errors (Kozer et al., 2002). Minor miscalculations in dosage or timing can profoundly impact a child’s health, potentially leading to adverse drug events that necessitate prolonged hospitalization, complications, or, in some cases, mortality (Conn et al., 2019; Innab, 2019; Stolic et al., 2022).

For instance, miscalculations in weight-based dosing or failures to adjust adult formulations for pediatric use are prevalent in pediatric settings and are associated with increased risk of adverse drug events (Bifftu et al., 2016; Ebrahim Elsherbieny et al., 2020). Nichter et al. observed medication error incidence ranging from 22 to 59 per 1,000 doses in pediatric intensive care units—seven times higher than in other inpatient pediatric units (Nichter, 2008).

Miller et al. (2007) reported that errors are prevalent across all stages of medication management in pediatric care, from prescribing to administration. In that study, error rates at the administration phase were noted to reach high levels of 72–75%. In this context, our participants' emphasis on administration- and distribution-related risks—such as “dosage calculation errors” and “administration route/infusion errors”—directly aligns with the elevated error rates documented in the literature (Miller et al., 2007).

Nurses, who typically serve as the primary caregivers responsible for medication administration, frequently contend with overwhelming workloads and inadequate support (Acheampong et al., 2016; Yismaw et al., 2020). A review of the literature reveals that in one study, half of pediatric nurses identified distraction as a significant contributor to errors (Stratton et al., 2004). In another investigation, recurrent interruptions during medication preparation and fatigue were cited as the most prevalent causes (Burton et al., 2018).

Studies conducted in major teaching hospitals in Ghana have reported that more than 60% of nurses experience high levels of stress and fatigue known to contribute to medication errors (Dedefo et al., 2016). In another study, inadequate knowledge of medications and misinterpretation of prescriptions—linked to prescribers' illegible handwriting—were identified as additional prominent causes of medication errors. Heavy workload, insufficient communication with staff, and the availability of medications with similar packaging or names were also noted among the error contributors (Wilson and Sheikh, 2002).

In our study, inadequate training of nurses in pediatric clinics emerged as one of the causes of malpractice. A study in the literature examining factors contributing to malpractice reported inadequate pediatric training, reliance on adult medication guidelines, high workloads, and lack of access to critical resources as key determinants (Nukpezah et al., 2024). In another study, nurses identified knowledge deficits regarding pediatric pharmacology and physiological differences as a significant malpractice risk (Ceylan, 2021). Similarly, reports emphasize that pharmacokinetic variability in pediatric patients necessitates advanced clinical knowledge and experience to ensure medication safety (Oğuz, 2007).

The literature indicates that pediatric medication administration errors are also prevalent in home settings, particularly when three or more medications are prescribed (Lopez-Pineda et al., 2022). Other studies have identified limited access to pediatric-specific training, staffing shortages, and inadequate infrastructure as major barriers to medication safety (Cohen and Shastay, 2008; Innab, 2019).

In this study, pediatric nurses highlighted inadequate experience and training, dosage calculation errors, improper handovers, and staffing deficiencies as significant contributors to malpractice, findings consistent with the literature (Nukpezah et al., 2024). Participants' emphasis on kg/age calculations, infusion duration, confusion of similarly packaged medications, and allergic reaction risks parallels prior findings (Nukpezah et al., 2024).

In studies examining reporting practices, effective dissemination of reporting systems has been shown to enhance patient safety culture (Guerrero-Aznar et al., 2014). However, low reporting rates persist (Alharbi et al., 2020; Semiz-Aydın, 2015; Oğuz, 2007). International literature highlights fear of punishment, institutional culture, workload, and liability concerns as major barriers to reporting (Mayo et al., 2004; Sarvadikar et al., 2010; Miladinia et al., 2016). Similar barriers have been documented in Türkiye (Oğuz, 2007; Yılmaz, 2009).

Finally, incomplete or inaccurate history-taking emerged as a malpractice factor in our study. The literature underscores caregivers' high risk of medication errors due to knowledge deficits and emphasizes the critical role of caregiver–healthcare team communication in pediatric patient safety (Lopez-Pineda et al., 2022).

## CONCLUSION

The findings of this study indicate that malpractice in pediatric nursing is perceived as a complex phenomenon shaped by the interaction of clinical, organizational, and relational factors rather than isolated individual errors. Pediatric nurses emphasized that medication administration processes, continuous monitoring requirements, working conditions, professional preparedness, reporting culture, and family–team communication collectively influence malpractice risk. This study contributes to the literature by providing an in-depth understanding of pediatric nurses' perceptions of malpractice from a qualitative perspective. The findings highlight the multidimensional nature of malpractice risk in pediatric care and emphasize the importance of organizational support, professional training, and effective communication in preventing medical errors. Future research may focus on developing intervention programs and evaluating strategies aimed at reducing malpractice risk in pediatric healthcare settings. These findings highlight the need for system-oriented strategies to support safe pediatric practice, including pediatric-focused

training, adequate staffing levels supportive institutional environments, and effective collaboration with families.

### Strengths and limitations

#### Strengths

Conducting the study in a tertiary-level university hospital allowed the exploration of pediatric nurses' perceptions and experiences regarding malpractice within a real clinical setting. Collecting data through semi-structured open-ended questions and analyzing them systematically using content analysis contributed to the identification of multidimensional themes related to pediatric malpractice risk.

#### Limitations

Although the sample size is adequate for a qualitative study, collecting written responses rather than audio-recorded interviews may have limited the depth of the data. Participation was voluntary, which may reflect the perspectives of nurses who were more willing to share their experiences. Since the study was conducted in a single university hospital, the findings may not be fully generalizable to all pediatric nursing settings.

#### Author Contributions

Dilek Çiftçi Baykal: Conceptualization, Methodology, Data collection, Content analysis, Coding, Theme and sub-theme development, Interpretation of findings, Writing - original draft, Writing - review & editing, Supervision. Suna Yağızoruc: Methodology, Content analysis and coding, Independent review of codes and themes (validation), Writing - review & editing, Supervision.

#### Declarations

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

#### Ethics approval and consent to participate

This study was conducted in accordance with the principles of the Declaration of Helsinki. Ethical approval was obtained from the Non-Interventional Research Ethics Committee of Van Yuzuncu Yil University (date: 20/09/2024, decision number: 2024/10/11).

#### Competing interests

The authors declare no competing interests.

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