



Contents lists available at ScienceDirect

Journal of PeriAnesthesia Nursing

journal homepage: www.jopan.org

Research

Perspectives of Health Care Professionals on Barriers to the Clinical Implementation of Preoperative Short Fasting Recommendations: A Phenomenological Study

Fadime Ertural, MSc^{a,b,*,1}, Gulden Küçükakça Çelik, PhD^{c,2}, Seçil Taylan, PhD^{d,3},
Salime Mucuk, PhD^{e,4}

^a Department of Medical Services and Techniques, Nuh Naci Yazgan University Vocational School, Kayseri, Turkey

^b Nursing Department, Erciyes University Graduate School of Health Sciences, Kayseri, Turkey

^c Nursing Department, Nevşehir Hacı Bektaş Veli University Semra and Vefa Küçük Faculty Of Health Sciences, Nevşehir, Turkey

^d Nursing Department, Akdeniz University Kumluca Faculty Of Health Sciences, Antalya, Turkey

^e Nursing Department, Erciyes University Faculty of Health Sciences, Kayseri, Turkey

A B S T R A C T

Keywords:

preoperative fasting
qualitative research
phenomenology

Purpose: This study aimed to identify the barriers to translating evidence-based recommendations on preoperative fasting durations into clinical practice.

Design: The study used a phenomenological design within qualitative research methodology.

Methods: Criterion sampling, a purposive sampling method, was used to select the study group. Semistructured interview questions served as the data collection tool. All interviews were audio-recorded, and content analysis was employed for data analysis.

Findings: Four main themes (A Reliable Method: The Nil Per Os Protocol, Concerns About the Proper Implementation of New Recommendations, Perspectives on Protocol Change, and Suggestions for Protocol Modification) and 13 subthemes emerged from the analysis of the data.

Conclusions: The study concluded that the two primary barriers to implementing evidence-based practices in clinical settings are flexible operation schedules and the low socioeconomic status of patients.

© 2025 American Society of PeriAnesthesia Nurses. Published by Elsevier Inc. All rights are reserved, including those for text and data mining, AI training, and similar technologies.

One of the key physiological preparations before surgery is the restriction of oral intake of food and fluids.¹ Patients undergoing elective surgery are required to abstain from all food and fluids for a specific period before the operation.² Preoperative fasting reduces the volume and acidity of stomach contents, aiming to prevent complications such as pulmonary aspiration, vomiting, regurgitation, and issues related to anesthesia or surgery.^{3,4} Traditionally, prolonged fasting starting at midnight (nil per os) has been recommended for adults to achieve these goals.^{4,5}

Prolonged preoperative fasting can lead to various negative effects, including thirst, hunger, discomfort, hypoglycemia, dehydration,

electrolyte imbalance, malnutrition, hypovolemia, and insulin resistance.^{4,6} Additionally, fasting adversely affects immune function, increasing the risk of infections.^{7,8}

Research indicates that pulmonary aspiration is a rare complication in modern anesthesia.^{4,6} With the reduction in aspiration incidence and the rise in complications associated with prolonged fasting,⁴ traditional midnight fasting protocols have been challenged.⁹ As a result, the American Society of Anesthesiologists (ASA) revised its guidelines for preoperative fasting in healthy patients undergoing elective surgery.^{9–11}

The ASA, along with the European Society of Anaesthesiology, recommends shorter preoperative fasting durations of 2 hours for clear fluids and 6 hours for solid foods in their guidelines, as well as in Enhanced Recovery After Surgery protocols.^{7,12–14} Evidence confirms that shorter fasting durations do not significantly increase the risk of regurgitation or aspiration.^{4,15–17} Shortened fasting periods are essential for meeting patients' energy demands, supporting wound healing, enhancing immune function, and facilitating early

* Address correspondence to: Fadime Ertural, Department of Medical Services and Techniques, Nuh Naci Yazgan University Vocational School, Kayseri, Turkey.

E-mail address: fertural@nny.edu.tr (F. Ertural).

¹ ORCID: 0000-0001-6983-5995.

² ORCID: 0000-0002-8325-3198.

³ ORCID: 0000-0002-7243-0734.

⁴ ORCID: 0000-0003-4787-7515.

recovery of normal bowel function.^{7,18,19} Additionally, shorter fasting durations have been shown to alleviate dry mouth, hunger, insulin resistance, muscle weakness, and postoperative nausea and vomiting.^{14,20-22}

Despite these benefits, the adoption of shorter fasting durations in clinical practice has been slow.²³ While many institutions have implemented shorter fasting protocols, studies reveal that prolonged fasting remains common in practice, regardless of the time of surgery.^{4,10,23-25} This highlights a significant gap between actual fasting durations and the recommendations outlined in the guidelines.⁴ Furthermore, the ASA and other guideline recommendations are often overlooked in clinical settings^{9,10} and traditional nil per os practices continue to dominate.^{4,26}

To improve patient safety and health care quality, health care professionals must abandon prolonged fasting policies and adopt evidence-based practices.²⁷ Surgical nurses, who are responsible for preparing patients preoperatively, play a crucial role in ensuring proper adherence to fasting protocols.^{10,23} A multidisciplinary approach, involving nurses, physicians, anesthesiologists, surgical teams, and other practitioners, is essential for optimizing preoperative fasting practices.⁴

A holistic and evidence-based approach is imperative. Nurses' collaboration with other health care disciplines is of utmost importance in implementing evidence-based practices for preoperative nutritional and fluid restrictions.²³

This study aims to identify barriers to implementing evidence-based short fasting recommendations in clinical practice. By addressing these barriers, the study contributes to the literature and supports the development of strategies to overcome these challenges.

Methods

Design

This study is based on qualitative research methodology. Qualitative research aims to understand a phenomenon from the perspective of relevant individuals and to reveal the social structures and processes that shape these perspectives.²⁸ The design of this study is phenomenological, a qualitative research design. Phenomenological studies explore participants' feelings, thoughts, perceptions, and how they structure and create a state of consciousness regarding the phenomena they experience.²⁹ The aim of this study is to identify the barriers preventing the implementation of evidence-based practices on preoperative fasting durations into clinical practice. To uncover these barriers, the study deeply examines the thoughts, perceptions, and attitudes of health care professionals regarding fasting durations, based on their experiences. For this purpose, the phenomenological design of qualitative research was used in this study.

Setting and Sample

In this study, the sample was selected using a criterion-based purposive sampling method. In qualitative research, purposive sampling is preferred to examine the individuals or situations under investigation rather than generalizing the findings to the broader population.^{30,31} Purposive sampling is particularly useful for in-depth examination of cases believed to hold rich information and for exploring and explaining phenomena.³¹ In this study, purposive sampling was used to discover and explain the factors hindering the implementation of appropriate fasting durations in clinical practice.

The criterion-based purposive sampling method involves examining all cases that meet a predefined set of criteria. These criteria can either be determined by the researcher or based on a pre-established list of standards.³² In this study, the purposive sampling

method was used as the researcher established the criteria for selecting the sample. The criteria included working as a nurse, surgeon, or anesthesiologist in surgical clinics and having at least 1 year of experience in a surgical clinic to better reflect their experiences regarding fasting durations.

Additionally, the recommendation is that preoperative fasting durations be determined by a multidisciplinary surgical team.^{4,33} For this reason, the sample included members of the surgical team, namely nurses, surgeons, and anesthesiologists. The participants were health care professionals with knowledge and experience regarding fasting durations who worked in the surgical clinics of a state hospital located in a province in Turkey's Central Anatolia Region.

Although there is no consensus on the ideal sample size in qualitative research, an adequate sample size is achieved when satisfactory data are collected. Data collection is concluded when data saturation is reached, meaning the same data start to repeat and no new information emerges.³⁴ In this study, data collection was terminated when no new information emerged. The sample included eight nurses, five surgeons, and five anesthesiologists. Nurses were coded as H1 to H8, surgeons as C1 to C5, and anesthesiologists as A1 to A5. Participant characteristics are presented in Table 1.

Data Collection Tools

Interviews with participants were used as data collection. The primary purpose of an interview is to uncover the thoughts, beliefs, and emotions of the individual being engaged.³⁰ In this context, the "Sociodemographic Characteristics Form" and the "Semi-Structured Interview Form" were used during the interviews.

The "Sociodemographic Characteristics Form" was developed based on a literature review and consisted of 10 questions.^{5,23,35} These questions addressed participants' educational background, profession, experience in surgical clinics, attendance at scientific congresses, symposiums, and in-service training, following scientific publications, reading scientific materials on nutritional and fluid restrictions, awareness of the latest ASA guidelines for preoperative fasting, and identification of the person responsible for instructing patients to fast before surgery.

Researchers prepare an interview form that includes the questions they plan and intend to ask in advance, thereby creating semistructured interview questions.³⁶ In addition, depending on the flow of the interview, the researcher may influence the course of the conversation with different side or subquestions and enable the participant to expand and elaborate on their answers.³⁷ In this context, the "Semi-Structured Interview Form" was created by the researcher and finalized with the expert opinions of two specialists in the field of Surgical Nursing (Table 2). Expert opinions were obtained from two associate professors specializing in surgical nursing: one from the Department of Surgical Nursing at Akdeniz University and the other from the Department of Surgical Nursing at Erciyes University.

Data Collection Process

The interviews were conducted by a female researcher who has previous clinical experience in the field of nursing and currently works as a lecturer at a foundation university. She is the Principal Investigator of the study and received formal training in qualitative research as part of her postgraduate education. The researcher was responsible for all phases of the study, including data collection, manual coding, thematic analysis, and reporting. She had no prior professional or personal relationship with any of the participants, thereby minimizing potential bias during the research process.

Table 1
Participants' Demographic Characteristics

Code	Education	Years of Experience in Surgical Clinics	Participation in Scientific Congresses or Events	Reading Scientific Publications on Food-fluid Restrictions	Awareness of ASA Guidelines on Fasting
C1	Postgraduate	6	Yes	Yes	Yes
C2	Postgraduate	31	Yes	No	No
C3	Postgraduate	19	No	Yes	No
C4	Postgraduate	20	Yes	Yes	Yes
C5	Postgraduate	13	Yes	No	No
H1	Postgraduate	7	Yes	No	No
H2	Bachelor's	6	No	No	No
H3	Bachelor's	4	No	No	No
H4	Bachelor's	1.5	No	No	No
H5	Associate degree	1	No	Yes	No
H6	Associate degree	1	No	No	No
H7	Bachelor's	5	Yes	No	No
H8	Bachelor's	4	No	No	No
A1	Postgraduate	10	Yes	No	Yes
A2	Postgraduate	10	Yes	No	Yes
A3	Postgraduate	13	No	No	Yes
A4	Postgraduate	12	Yes	Yes	Yes
A5	Postgraduate	13	Yes	No	Yes

ASA, American Society of Anesthesiologists.

Data collection was conducted between October and December 2023 through face-to-face interviews. Each interview lasted 25 to 45 minutes and was held in a quiet environment, such as a nurse's or doctor's office. Participants' consent was obtained for audio recording. During the interviews, participants' responses were clarified when necessary, and unclear answers were probed further. After transcription, responses were validated through member checking.

Data Analysis

Content analysis was employed to evaluate the data in this study. In content analysis, similar data are systematically grouped around specific concepts and themes to facilitate interpretation in a manner that is meaningful to the reader.^{30,38} In qualitative research, content analysis is a coding-based analytical approach that enables the identification of themes related to the research problem by analyzing rich, detailed data collected by the researcher. Codes derived from this process are categorized into subthemes, which are then consolidated under broader main themes.³⁸

In this study, data obtained from semistructured interviews were transcribed verbatim by listening to the audio recordings. These transcripts were examined to generate new codes, leading to the identification of subthemes and overarching themes. Thus, content analysis was deemed the most appropriate method for this study. To ensure methodological rigor and enhance the trustworthiness of the findings, expert consultation was obtained from a faculty member with recognized expertise in qualitative research. The expert is a professor in the Faculty of Educational Sciences at Erciyes University, who teaches qualitative research at the graduate level and conducts professional training in this field. The methodology and coding processes were reviewed with the expert, and constructive feedback

was incorporated—particularly regarding the development of thematic frameworks, categorization procedures, and consistency in data interpretation.

The entire data management and analysis process was conducted manually, without the use of qualitative data analysis software. The coding process was explicitly performed through manual coding by the researcher, using a thematic content analysis approach.

Ethical Considerations

Ethical approval was obtained from the Non-Interventional Clinical Research Ethics Committee of a university (Approval No: 2023/17, dated April 19, 2023). Institutional permission was also secured (Approval No: E-26171210-929-218694310, dated June 23, 2023). Verbal informed consent was obtained from all participants, and anonymity was maintained by using codes instead of names during data reporting.

Reporting Guidelines

This qualitative study was conducted and reported in accordance with the Consolidated Criteria for Reporting Qualitative Research (COREQ) 32-item checklist developed by Tong et al.³⁹ The COREQ checklist ensures comprehensive and transparent reporting in three key domains: (1) research team and reflexivity, (2) study design, and (3) data analysis and reporting. Each item of the checklist was systematically reviewed to evaluate the study's methodological rigor and reporting clarity. A summary of the study's compliance with the COREQ criteria is presented in [Supplementary 1](#), demonstrating that 27 of the 32 items were fully met and 2 were partially met, indicating a high level of alignment with established qualitative research reporting standards.

Table 2
Semistructured Interview Form Questions

1	What can you say about the reasons for the widespread use of the nil per os protocol after midnight? Alternative question: What do you think are the reasons why evidence-based short fasting protocols are not implemented in practice?
2	Can you share with us the methods you follow to support prolonged fasting durations? Alternative question: What actions do you take to support prolonged fasting durations?
3	Do you think the protocol commonly used in practice should be changed? Why?
4	If you think it should be changed, what course of action do you suggest?

Findings

In the findings section, subthemes were developed based on the participants' responses. These subthemes were then grouped into main themes. As a result, a total of 4 themes and 13 subthemes were identified. The themes and subthemes are presented in Table 3.

Theme 1: A Reliable Method: The Nil Per Os Protocol

The theme "A Reliable Method: The Nil Per Os Protocol" consists of five subthemes, as shown in Table 3.

Subtheme 1.1: Flexible Operation Hours

Participants explained that the nil per os protocol is widely used due to the flexibility of surgery schedules. A large number of participants (11) made statements supporting this view, which are highlighted below:

"We ensure patients fast after midnight to avoid risks because we cannot adjust for uncertain surgery times." (H6)

"Surgeons probably recommend fasting from midnight since the exact timing of surgeries is unclear." (A2)

"After setting the first case of the day, surgery schedules can sometimes change." (C4)

Subtheme 1.2: A Single Standard Protocol: Easier, Practical, Clear, and Comprehensible

Seven participants stated that the nil per os protocol remains in use because its standardized application makes it easier, practical, clear, and understandable. Participants expressed this as follows:

"In general, it's more practical for surgery and anesthesia. Otherwise, applying different fasting durations for everyone is difficult to standardize." (A1)

"It's clearer, and patients understand it more easily." (H8)

"When you tell patients they must fast after midnight, they all comply automatically. I think this simplicity is another advantage." (H2)

Subtheme 1.3: For the Wheel to Turn

Six participants stated that the nil per os protocol is widely used to prevent disruptions and ensure the continuity of operations:

"We actually have to do this to keep the system running, to keep the wheel turning and, as I said, to ensure that surgeries are not postponed and the plan is not disrupted." (C1)

"Patients fast to ensure we complete all planned surgeries by the end of the day." (C3)

"They do not take the patient into surgery, for example, the other pending case goes, so the doctors do not want their work to be disrupted here." (H2)

Subtheme 1.4: Preventable Effects of Prolonged Fasting

Six participants noted that prolonged fasting effects are manageable with intravenous (IV) hydration, leading to continued use of the midnight fasting protocol. Participants explained this as follows:

"Hunger and lack of nutrients don't cause significant issues, but fluid deficiency can be a problem. With some fluid replacement, the length of the fasting period doesn't become much of an issue." (C2)

Table 3

Themes and Subthemes Derived From the Study Results

Themes	Subthemes
A Reliable Method: The Nil Per Os Protocol	• Flexible operation hours • A single standard protocol: easier, practical, clear, and comprehensible • For the wheel to turn • Preventable effects of prolonged fasting • Fed patients pose a greater risk
Concerns About the Proper Implementation of New Recommendations	• Patients with low sociocultural levels • Lack of trust • Complexity of short fasting instructions • Increased workload
Perspectives on Protocol Change	• Should not change: communication issues • Should change: excessively long fasting durations
Suggestions for Protocol Modification	• Surgery times should be clarified • Implementation depends on doctors

"For example, blood pressure may drop, but since patients are fasting during this period, we immediately administer IV fluids. Or if blood sugar drops, we provide dextrose. We manage these situations with necessary interventions." (H3)

Subtheme 1.5: Fed Patients Pose a Greater Risk

Three participants stated that fasting does not lead to significant problems; rather, they considered being fed a greater risk. They highlighted this as a reason for the widespread use of the nil per os protocol. Participants expressed this as follows:

"...But there aren't very serious problems; it's more related to the education level of the patients because fed patients pose a greater risk for us, that's why." (A5)

"...But at least I think that no one would die even if they fasted for 15–16 hours. For this reason, I think taking a fed patient is riskier, particularly in terms of aspiration." (A1)

Theme 2: Concerns About the Proper Implementation of New Recommendations

The theme "Concerns About the Proper Implementation of New Recommendations" consists of four subthemes, as shown in Table 3.

Subtheme 2.1: Patients With Low Sociocultural Levels

Nine participants explained that the nil per os protocol is widely used because patients with low sociocultural levels struggle to fully understand or correctly follow this protocol. Participants expressed this as follows:

"As I said, considering the structure of our society, I think it shouldn't be changed too much because sometimes they don't even understand what you're saying." (C4)

"It's related to our sociodemographic structure. Patients are more likely to understand when you say 12:00 midnight, so we think it has to do with their education level." (A5)

"Also, just saying 'stay fasting' isn't enough. In Turkey, you have to tell a patient, 'It's like fasting during Ramadan.' When you say 'stay fasting,' some patients will say, 'I just ate a little, but I didn't fill my stomach,' and they'll come after eating something small. Others will say, 'I didn't eat, I just drank water,' and come like that." (C2)

Subtheme 2.2: Lack of Trust

Seven participants stated that a lack of trust in the correct implementation of shorter fasting protocols is a reason for the widespread use of the nil per os protocol. Participants explained this as follows:

"If you tell patients scheduled for the afternoon to have breakfast in the morning and then fast after breakfast, there's a fear that most of these patients will eat lunch instead." (C3)

"Another reason is that there's no trust—neither in patients, nor nurses, nor doctors. That's why we give clear instructions to fast after 12:00 midnight. Because there's no trust in patients—did they really fast or not? There's no trust in nurses either—will they monitor each patient's fasting time? And the same applies to doctors—will they follow up on their patients?" (A4)

"For patients scheduled for surgery at 9 or 10 in the morning, we can't individually confirm if they ate or drank after 2 or 3 a.m. That's why we routinely instruct everyone to fast after midnight." (H6)

Subtheme 2.3: Complexity of Short Fasting Instructions

Seven participants explained that the nil per os protocol is widely used because it prevents confusion. Participants expressed their thoughts as follows:

"It can create confusion for the patient. Like, should I stop eating at 4 or 5? Should I drink water at this time or eat solid food at that time? They might mix everything up." (H1)

"To avoid confusion caused by different fasting instructions for each patient, we take a clear stance and tell everyone to fast after midnight." (A4)

"If it's different for everyone, then there will be confusion. There might even be problems among patients." (H8)

Subtheme 2.4: Increased Workload

Three participants stated that the nil per os protocol is widely used because tailoring fasting durations for each patient would increase workload. Their thoughts were expressed as follows:

"The surgeon will have to tell one patient to stop eating after 2 a.m., another after 5 a.m., and another after 6 a.m. This would create a workload for the surgeon, as they'd need to explain it individually to every patient." (H1)

"Having each patient fast for a certain hour at work will increase the workload a bit, and if we consider that there are not enough nurses working, it will of course make it difficult to implement this protocol." (C4)

Theme 3: Perspectives on Protocol Change

The theme "Perspectives on Protocol Changes" consists of two subthemes, as shown in [Table 3](#).

Subtheme 3.1: Should Not Change: Communication Issues

Five participants stated that the protocol should not be changed due to potential communication problems with patients. Their statements include the following:

"If we tell ten patients to fast after midnight, we inevitably have problems with at least five or six of them. A new protocol would be even more confusing, and we'd have a harder time reaching mutual understanding. That's why I think this method is correct." (H7)

"It shouldn't change because of societal communication problems between patients and doctors. As I mentioned earlier, even though we tell them to fast after midnight, some patients still eat breakfast in the morning." (C5)

Subtheme 3.2: Should Change: Excessively Long Fasting Durations

Six participants suggested that the fasting protocol starting at midnight leads to excessively long fasting periods and should therefore be revised. Participants shared the following thoughts:

"It absolutely needs to change. As I said, the fasting duration is far too long. This leaves patients weak, causes drops in blood sugar and blood pressure, and delays recovery. I also think prolonged fasting increases nausea and vomiting." (H2)

"Here's how I see it: There's a long gap between the first and last cases of the day. For example, patients scheduled for the afternoon could fast for a shorter period to reduce complaints. Fasting times shouldn't be routine after midnight; it could start after 6 a.m. instead." (H5)

"Actually, yes, the maximum fasting duration should be 8 hours. Why should the fasting period be any longer?" (A3)

Theme 4: Recommendations for Protocol Changes

The theme "Recommendations for Protocol Changes" consists of two subthemes. These subthemes were developed based on the suggestions provided by participants who supported changes to the protocol.

Subtheme 4.1: Surgery Times Should Be Clarified

Seven participants emphasized that surgery times need to be clarified for the protocol to be modified. Their statements include the following:

"The order of surgeries should be determined, and fasting should be adjusted accordingly." (H4)

"I think the only way is to clarify surgery times. Then, patients can be told they can eat and drink up until six hours before surgery without any issues." (A2)

"If we could plan each patient's surgery time one day in advance, we could tell each patient, 'Your surgery is at 14:00, so you must stop eating and drinking after 08:00 in the morning'." (C2)

Subtheme 4.1: Implementation Depends on Doctors

Four participants stated that changes to the protocol and the implementation of new recommendations depend on doctors' decisions. Participants explained this as follows:

"As a nurse, I can't change this practice. Whatever the doctor says goes. Only a doctor can change it." (H1)

"From what I've observed during my time here, I don't make the decisions. The doctor makes them. The person qualified to approve changes is, of course, the physician or surgeon. In operating room conditions, it also depends on the anesthesiologist. It's something they need to decide together." (H4)

Discussion

This study was designed to identify the barriers preventing the implementation of evidence-based short fasting practices in clinical settings. Based on participants' responses, the primary barrier

identified was the flexibility of surgical operating hours. Most participants stated that the uncertainty surrounding the timing and order of surgeries resulted in the universal application of the nil per os protocol to all patients. Li et al⁴ similarly reported that the lack of a definitive surgery time was a significant barrier to adhering to short fasting recommendations. Similarly, Dagher et al⁵ examined the reasons why Lebanese anesthesiologists did not comply with ASA's preoperative short fasting recommendations. Their study revealed that 32.7% of the 294 anesthesiologists surveyed identified "ensuring flexibility for changes in the operating schedule" as a primary reason for noncompliance. Baril and Portman¹ also reported that "changes in surgical schedules" were among the reasons for not adhering to short fasting durations. The findings of this study are consistent with these results. As indicated by the study's findings, changes in surgical schedules lead to uncertainties in the timing and order of surgeries, resulting in the application of the nil per os protocol to all patients. This is because ensuring the intake of clear liquids 2 hours before surgery and solid foods 6 hours before surgery becomes challenging for patients whose surgery times are uncertain. The reason for the uncertainty in surgery timing and order may be related to the subtheme "For the wheel to turn" expressed by participants in the findings section. This situation may arise from the desire to immediately admit the next patient in cases of cancellations, without waiting for other patients' fasting durations, to prevent delays and ensure workflow continuity. Merchant et al⁴⁰ also identified variability in operating room schedules as the most common reason for noncompliance with short fasting recommendations. However, 83% of the respondents in their study noted that such changes occurred only occasionally or rarely. Furthermore, it was reported that even when changes occurred, they frequently caused issues in fewer than 5% of cases. Similar to Merchant et al's findings, the schedule changes perceived by participants in this study may not cause as much disruption to the implementation of short fasting durations as believed.

The findings from the study indicate that participants were concerned about the proper implementation of short fasting recommendations. This concern largely stemmed from patients' low sociocultural status, which was perceived to hinder their understanding of fasting instructions, including the nil per os protocol. Additionally, participants expressed a lack of trust in patients' ability to correctly follow these recommendations. Similar issues have been identified in previous studies, where patients' misunderstanding of preoperative fasting protocols was shown to be a significant barrier.^{1,40,41} For instance, Baril and Portman¹ found that noncompliance was often due to patients' lack of knowledge and doubts regarding their ability to follow instructions.³⁵ In developing countries like Turkey, concerns about the population's educational and health literacy levels may cause health care professionals to perceive satiety-related complications as a more immediate risk than the effects of prolonged fasting. As a result, a uniform and conservative fasting instruction such as fasting from midnight is often applied to all patients, regardless of individual circumstances. Dagher et al⁵ similarly reported that 11.6% of anesthesiologists cited fear of increased pulmonary aspiration risk as a reason for not adhering to ASA guidelines. Salman et al⁴² also identified aspiration concerns as a barrier to implementing updated protocols. However, growing evidence shows that short fasting durations do not significantly elevate the risk of regurgitation or aspiration, nor do they adversely affect gastric volume and pH.^{4,16,17} Recent literature further supports the safety and efficacy of liberalized preoperative fasting protocols. Marsman et al⁴³ demonstrated that implementing a liberal policy allowing clear fluids up to 2 hours before surgery significantly reduced fasting duration

and improved patient comfort, without compromising safety outcomes or increasing aspiration risk. In line with these findings, Sidik et al⁴⁴ conducted a closed-loop quality improvement initiative and reported enhanced compliance with fasting guidelines, contributing to both patient safety and institutional adherence to evidence-based practices. Moreover, Ng et al⁴⁵ carried out a randomized controlled trial comparing unrestricted water intake with standard fasting protocols for planned cesarean deliveries under spinal anesthesia. Their study found no increase in adverse events and reported better maternal comfort and satisfaction in the group permitted to drink water preoperatively. These studies reinforce the idea that individualized, patient-centered fasting strategies can be safely integrated into clinical routines, provided that clear protocols and interprofessional collaboration are ensured.

While participants viewed postprandial complications as a greater risk, their belief that the effects of prolonged fasting could be mitigated with IV hydration suggests another barrier to implementing short preoperative fasting practices in clinical settings. Similarly, Dagher et al⁵ found that noncompliance with ASA guidelines on short fasting was due to the perception that fasting effects could be compensated through IV fluid administration. The literature indicates that prolonged fasting can lead to various adverse effects, including headaches, thirst, hunger, dehydration, electrolyte imbalances, stress, confusion, hypoglycemia, nausea, vomiting, and increased insulin resistance.^{8,16,17,46-50} Furthermore, preoperative fasting induces metabolic stress by depleting glycogen stores, utilizing muscle protein for gluconeogenesis, and causing postoperative insulin resistance.^{41,50,51} Lipolysis and proteolysis triggered by fasting can contribute to stress-induced hyperglycemia.^{50,51} Prolonged preoperative fasting has also been reported to increase postoperative blood glucose levels and decrease albumin levels.^{50,52} Hyperglycemia is known to impair the chemotactic, phagocytic, and microbicidal activities of polymorphonuclear neutrophils and macrophages, which play critical roles in the inflammatory response to infections. In addition, hyperglycemia contributes to vascular and immune dysfunction as well as cellular damage. Hyperglycemia is associated with delayed wound healing, increased wound infections, ischemia, sepsis, and mortality.⁵⁰ Consequently, reliance on IV fluids alone is inadequate to address these nutritional deficits and may jeopardize recovery, highlighting the need for greater awareness among health care professionals of the distinct and critical role that nutritional intake plays in perioperative care.

Based on the findings of this study, another reason for noncompliance with short fasting recommendations before surgery is the perceived complexity of these guidelines. El-Sharkawy et al⁴¹ noted that concerns about the complexity of short fasting recommendations were among the factors contributing to noncompliance. Similarly, 51.5% of participants in the study by Salman et al⁴² cited confusion among hospital staff as the reason for noncompliance with new recommendations. There was a general tendency among participants to believe that it would be more practical to provide a single standard protocol to all patients to reduce clinical confusion. However, this approach may discourage personalized and evidence-based care. Additionally, the complexity of implementing individualized fasting durations increases the workload of health care personnel, which was also identified as a barrier to compliance with short fasting recommendations. This finding is particularly notable as it has not been widely reported in studies^{1,5,40,42} investigating the reasons for the lack of clinical implementation of short fasting durations before surgery. Njoroge et al⁵³ suggested that the application of a single standard protocol to all patients might be attributed to increased workloads and staff shortages, particularly

among nursing staff. A similar study also indicated that one of the reasons for noncompliance with preoperative short fasting recommendations could be workload.⁵⁰ The perception of such practices as an additional workload reflects a task-oriented or work-focused model of care.⁵³ The findings of this study suggest that evaluating short fasting protocols as an added workload indicates the prevalence of a task-oriented approach. While this model may meet service demands, it carries a high risk of compromising care quality. It is essential to reconsider this approach and replace it with individualized patient instructions and care. Since patients are unique individuals with their own rights, physiological conditions, and other needs,⁵³ adopting a care-focused model that prioritizes personalized short fasting practices for each patient may not be perceived as an additional workload.

Another significant finding of this study is that half of the participants believed the protocol should not be changed. Most participants who opposed changes expressed concerns about communication problems arising from patients' potential misunderstanding of short fasting recommendations. Instead of placing patients at the center of any changes, empowering them by explaining the rationale behind the guidelines is likely to result in better understanding, greater compliance, and improved clinical outcomes.⁴¹ At this point, patient education plays a critical role in ensuring that patients correctly follow fasting instructions.⁵⁴ Kyratos et al., as cited in Yılmaz and Çelik⁵⁰ reported that enhanced patient education facilitated adherence to short fasting guidelines before surgery. Similarly, Van Noort et al.⁵⁵ demonstrated that organized patient education improved compliance with preoperative short fasting recommendations. The way information is presented to patients significantly influences their behavior and adherence to recommendations.⁵⁴ Accordingly, patient education tailored to the patients' level of understanding can help ensure that they correctly comprehend and implement preoperative short fasting recommendations.

Based on the study findings, health care professionals provided suggestions for modifying the nil per os protocol. Although various studies have addressed health care professionals' adherence to perioperative fasting guidelines, there is a lack of research directly reporting their recommendations for modifying existing protocols. This study can contribute to the literature by emphasizing the importance of considering suggestions from professionals working in the field. Participants recommended clarifying surgery times as a solution. One notable suggestion came from nurse participants, who stated that any changes could only occur if approved by physicians. The study also revealed that nurses often perceive themselves as lacking the authority to influence preoperative fasting decisions. This reflects structural hierarchies in health care systems, where decision-making power regarding perioperative instructions is typically concentrated in the hands of physicians. Such perceptions may limit the implementation of evidence-based and individualized care practices. However, nurses play a vital role in maintaining patient safety and ensuring high-quality patient care. In fulfilling this role, they are expected to demonstrate evidence-based practices and quality improvement skills.⁵⁶ Nurses are the primary source of communication and dissemination of preoperative fasting instructions. They constitute the majority of the health care workforce and spend the most time with patients. Consequently, they frequently encounter opportunities to interact with patients and communicate fasting instructions during the preoperative phase.⁵³ Nurses should use their interventions during the preoperative and postoperative periods to identify barriers to nutritional care and develop appropriate strategies to address these barriers.⁵⁷ Nurses' active participation in the development and implementation of clinical protocols improves

patient outcomes and supports quality improvement processes. This, in turn, has been shown to enhance patient safety and institutional performance.⁵⁸ Therefore, transforming nurses' roles from passive implementers to active contributors is critically important in bridging the gap between evidence-based practices and clinical reality.

Strengths and Limitations of the Study

The primary strength of this study is its aim to identify the barriers to the clinical implementation of short preoperative fasting recommendations and its unique focus on a multidisciplinary team (anesthesiologists, nurses, and surgeons) as the study group. Additionally, incorporating the suggestions of field-based participants regarding the modification of the nil per os protocol enhances the study's robustness. The main limitation of this study is that it was conducted at a single center. Conducting similar studies across multiple centers with a larger number of participants could expand and enrich the findings.

Conclusion

This study identified the barriers to the implementation of short preoperative fasting practices. The most significant barriers included the flexibility of surgery schedules and concerns about the misinterpretation and improper implementation of the new protocol due to patients' low sociocultural status. The implementation and adaptation of an evidence-based new protocol require time-acquired experience and improved multidisciplinary care organization.⁴¹ The findings of this study highlight the importance of addressing these barriers within a multidisciplinary framework, showing that the identified obstacles to the clinical application of evidence-based practices are solvable. Moreover, this study makes a unique contribution by directly analyzing the suggestions of health care professionals, an aspect often under-represented in the literature on preoperative fasting practices. The inclusion of these practical recommendations helps bridge the gap between empirical evidence and clinical applicability, offering feasible directions for protocol improvement and policy development.

CRediT authorship contribution statement

Salime Mucuk: Writing – review & editing, Resources, Project administration, Methodology, Formal analysis, Conceptualization. **Seçil Taylan:** Writing – review & editing, Resources, Project administration, Investigation, Formal analysis, Conceptualization. **Gülden Küçükakça Çelik:** Writing – review & editing, Validation, Resources, Project administration, Methodology, Investigation, Formal analysis, Conceptualization. **Fadime Ertural:** Writing – review & editing, Writing – original draft, Validation, Resources, Project administration, Methodology, Investigation, Formal analysis, Conceptualization.

Acknowledgements

This study was previously presented at the 8th Çukurova Congress of Gastrointestinal Diseases and Surgery.

Declaration of Competing Interest

None to report.

Appendix A. Supplementary Materials

Supplementary material associated with this article can be found in the online version at [doi:10.1016/j.jopan.2025.06.013](https://doi.org/10.1016/j.jopan.2025.06.013).

References

- Baril P, Portman H. Preoperative fasting: knowledge and perceptions. *AORN J*. 2007;86(4):609–617. <https://doi.org/10.1016/j.AORN.2007.09.003>.
- Apfelbaum JL, Caplan RA, Connis RT. Practice guidelines for preoperative fasting and the use of pharmacologic agents to reduce the risk of pulmonary aspiration: application to healthy patients undergoing elective procedures. *Anesthesiology*. 2011;114(3):495–511. <https://doi.org/10.1097/ALN.0b013e3181fcbfd9>.
- Engelhardt T, Wilson G, Horne L, Weiss M, Schmitz A. Are you hungry? Are you thirsty? - fasting times in elective outpatient pediatric patients. *Pediatr Anesth*. 2011;21(9):964–968. <https://doi.org/10.1111/j.1460-9592.2011.03573.x>.
- Li Y, Lu Q, Wang B, Tang W, Fan L, Li D. Preoperative fasting times for patients undergoing elective surgery at a pediatric hospital in Shanghai: the big evidence-practice gap. *J Perianesth Nurs*. 2021;36(5):559–563. <https://doi.org/10.1016/j.jopan.2021.01.005>.
- Dagher C, Tohme J, Bou Chebl R, et al. Preoperative fasting: assessment of the practices of Lebanese Anesthesiologists. *Saudi J Anaesth*. 2019;13(3):184. https://doi.org/10.4103/sja.SJA_720_18.
- de Aguiar-Nascimento JE. Reducing preoperative fasting time: a trend based on evidence. *World J Gastrointest Surg*. 2010;2(3):57–60. <https://doi.org/10.4240/wjgs.v2.i3.57>.
- Wuensch T, Quint J, Mueller V, et al. Identification of serological markers for pre- and postoperative fasting periods. *Clin Nutr ESPEN*. 2019;30:131–137. <https://doi.org/10.1016/j.clnesp.2019.01.004>.
- Diks J, Van Hoorn DEC, Nijveldt RJ, et al. Preoperative fasting: an outdated concept? *J Parenter Enter Nutr*. 2005;29(4):298–304. <https://doi.org/10.1177/0148607105029004298>.
- Bilehjani E, Fakhari S, Yavari S, et al. Adjustment of preoperative fasting guidelines for adult patients undergoing elective surgery. *Open J Intern Med*. 2015;5(4):115–118. <https://doi.org/10.4236/ojim.2015.54016>.
- Shime N, Ono A, Chihara E, Tanaka Y. Current practice of preoperative fasting: a nationwide survey in Japanese anesthesia-teaching hospitals. *J Anesth*. 2005;19(3):187–192. <https://doi.org/10.1007/s00540-005-0319-z>.
- ASA. Practice guidelines for preoperative fasting and the use of pharmacologic agents to reduce the risk of pulmonary aspiration: application to healthy patients undergoing elective procedures. *Anesthesiology*. 2017;126(3):376–393. <https://doi.org/10.1097/ALN.0000000000001452>.
- Bankhead R, Boullata J, Brantley S, et al. ASPEN enteral nutrition practice recommendations. *J Parenter Enter Nutr*. 2009;33(2):122–167. <https://doi.org/10.1177/0148607108330314>.
- De Aguiar Nascimento JE, Salomão AB, Waitzberg DL, et al. ACERTO guidelines of perioperative nutritional interventions in elective general surgery. *Rev Col Bras Cir*. 2017;44(6):633–648. <https://doi.org/10.1590/0100-69912017006003>.
- Gustafsson UO, Scott MJ, Hubner M, et al. Guidelines for perioperative care in elective colorectal surgery: Enhanced Recovery After Surgery (ERAS) Society recommendations: 2018. *World J Surg*. 2019;43(3):659–695. <https://doi.org/10.1007/s00268-018-4844-y>.
- Brady MC, Kinn S, Stuart P, Ness V. Preoperative fasting for adults to prevent perioperative complications. *Cochrane Database Syst Rev*. 2003;4(4):CD004423. <https://doi.org/10.1002/14651858.CD004423>.
- Khoyratty S, Din A, Spendlove R, et al. The impact of discussing preoperative fasting with patients. *J Perioper Pract*. 2011;21(8):284–286. <https://doi.org/10.1177/175045891102100805>.
- Khoyratty S, Modi BN, Ravichandran D. Preoperative starvation in elective general surgery. *J Perioper Pract*. 2010;20(3):100–102. <https://doi.org/10.1177/175045891002000302>.
- Jeong O, Ryu SY, Jung MR, Choi WW, Park YK. The safety and feasibility of early postoperative oral nutrition on the first postoperative day after gastrectomy for gastric carcinoma. *Gastric Cancer*. 2014;17(2):324–331. <https://doi.org/10.1007/s10120-013-0275-5>.
- Wild T, Rahbarnia A, Kellner M, Sobotka L, Eberlein T. Basics in nutrition and wound healing. *Nutrition*. 2010;26(9):862–866. <https://doi.org/10.1016/j.nut.2010.05.008>.
- Abola RE, Gan TJ. Preoperative fasting guidelines. *Anesth Analg*. 2017;124(4):1041–1043. <https://doi.org/10.1213/ANE.0000000000001964>.
- Nelson G, Bakkum-Gomez J, Kalogera E, et al. Guidelines for perioperative care in gynecologic/oncology: Enhanced Recovery After Surgery (ERAS) Society recommendations—2019 update. *Int J Gynecol Cancer*. 2019;29(4):651–668. <https://doi.org/10.1136/ijgc-2019-000356>.
- Noba L, Wakefield A. Are carbohydrate drinks more effective than preoperative fasting: a systematic review of randomised controlled trials. *J Clin Nurs*. 2019;28(17–18):3096–3116. <https://doi.org/10.1111/jocn.14919>.
- Demirdağ H, Karaöz S. Patients "experiences about preoperative fasting and nurses" knowledge and practice. *Florence Nightingale J Nurs*. 2015;23(1):1–10.
- Breuer JP, Patron G, Seifert S, et al. Pre-operative fasting: a nationwide survey of German anaesthesia departments. *Acta Anaesthesiol Scand*. 2010;54(3):313–320. <https://doi.org/10.1111/j.1399-6576.2009.02123.x>.
- Yayla A, Eskici V, Ay E, Özer N, Kurt G. Evaluation of the compliance of made in pre and post-surgery period practices to ERAS protocol. *IGUSABDER*. 2022;18(18):734–750. <https://doi.org/10.38079/igusabder.980901>.
- Dogherty EJ, Harrison MB, Graham ID, Vandyk AD, Keeping-Burke L. Turning knowledge into action at the point-of-care: the collective experience of nurses facilitating the implementation of evidence-based practice. *Worldviews Evid Based Nurs*. 2013;10(3):129–139. <https://doi.org/10.1111/wvn.12009>.
- Crenshaw JT. Preoperative fasting: will the evidence ever be put into practice? *Am J Nurs*. 2011;111(10):38–43. <https://doi.org/10.1097/01.NAJ.0000406412.57062.24>.
- Neubauer BE, Witkop CT, Varpio L. How phenomenology can help us learn from the experiences of others. *Perspect Med Educ*. 2019;8(2):90–97. <https://doi.org/10.1007/S40037-019-0509-2>.
- Van Manen M. Phenomenology of practice. *Phenomenol Pract*. 2007;1(1):11–30. <https://doi.org/10.29173/pandpr19803>.
- Eroğlu S, Bektaş O. Ideas of science teachers took STEM education about STEM based activities. *J Qual Res Educ*. 2016;4(3):1–22. <https://doi.org/10.14689/issn.2148-2624.1.4c3s3m>.
- Creswell JW. *Research Design, Qualitative, Quantitative, and Mixed Methods Approaches*. 3rd ed. SAGE Publications; 2009.
- Marshall C, Rossman G. *Designing Qualitative Research*. Published online 2014. Accessed January 10, 2025. [https://www.google.com/books?hl=tr&lr=&id=zncBQAAQBAJ&oi=fnd&pg=PP1&dq=Marshall,+C.+%26+Rossman,+G.+B.+\(2014\).+Designing+Qualitative+Research.+New+York:+Sage.&ots=Lhh8tCWz4Y&sig=NDjmJagEyBowEvmwmzHhVdiomE](https://www.google.com/books?hl=tr&lr=&id=zncBQAAQBAJ&oi=fnd&pg=PP1&dq=Marshall,+C.+%26+Rossman,+G.+B.+(2014).+Designing+Qualitative+Research.+New+York:+Sage.&ots=Lhh8tCWz4Y&sig=NDjmJagEyBowEvmwmzHhVdiomE).
- Gezer N, Kunter D, Özgün S, et al. The effect of preoperative fasting period on comfort of the patient. *J Acad Res Nurs*. 2020;6(2):248–253. <https://doi.org/10.5222/jaren.2020.35229>.
- Karaca T, Aydın Özkan S. Qualitative analysis of knowledge of manager nurses about restraint practices. *J Health Nurs Manag*. 2018;5(3):172–178. <https://doi.org/10.5222/SHYD.2018.172>.
- Güzel A, Tetik Metin H, Akyiğit Albayrak E, Yava A. An evaluation of the appropriateness of nurses' knowledge, attitudes and practices to current guidelines on preoperative fasting. *J Curr Nurs Res*. 2022;2(3):130–140 doi:<https://dergi-park.org.tr/en/download/article-file/2560808>.
- Bogdan RC, Biklen SK. *Qualitative Research for Education*. 5th ed. Pearson Education; 2007.
- Merriam SB. *Qualitative Research*. 2nd ed. Jossey-Bass; 2009.
- Merriam SB, Grenier RS. *Qualitative Research in Practice: Examples for Discussion and Analysis*. Jossey-Bass Publishers; 2019.
- Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care*. 2007;19(6):349–357. <https://doi.org/10.1093/intqhc/mzm042>.
- Merchant RN, Chima N, Ljungqvist O, Kok JNJ. Preoperative fasting practices across three anesthesia societies: survey of practitioners. *JMIR Perioper Med*. 2020;3(1):e15905. <https://doi.org/10.2196/15905>.
- El-Sharkawy AM, Daliya P, Lewis-Lloyd C, et al. Fasting and surgery timing (FaST) audit. *Clin Nutr*. 2021;40(3):1405–1412. <https://doi.org/10.1016/j.clnu.2020.08.033>.
- Salman OH, Asida SM, Ali HS. Current knowledge, practice and attitude of preoperative fasting: a limited survey among Upper Egypt anesthetists. *Egypt J Anaesth*. 2013;29(2):125–130. <https://doi.org/10.1016/j.ejga.2012.10.007>.
- Marsman M, Kappen TH, Vernooij LM, van der Hout EC, van Waes JA, van Klei WA. Association of a liberal fasting policy of clear fluids before surgery with fasting duration and patient well-being and safety. *JAMA Surg*. 2023;158(3):254–263. <https://doi.org/10.1001/jamasurg.2023.0557>.
- Sidik AI, Faybushevich AG, Hossain ML, Samnang E, Dontsov VV. Enhancing compliance with preoperative fasting guidelines: a closed-loop quality improvement initiative to optimize patient safety and outcomes. *Cureus*. 2024;16(12):e75250. <https://doi.org/10.7759/cureus.75250>.
- Ng YL, Segaran S, Yim CCW, Lim BK, Hamdan M, Gan F, Tan PC. Preoperative free access to water compared to fasting for planned cesarean under spinal anesthesia: a randomized controlled trial. *Am J Obstet Gynecol*. 2024;231(6):651.e1–651.e11. <https://doi.org/10.1016/j.ajog.2024.03.018>.
- Bothamley J, Mardell A. Preoperative fasting revisited. *Br J Perioper Nurs*. 2005;15(9):370–374. <https://doi.org/10.1177/175045890501500903>.
- Abebe WA, Rukewe A, Bekeke NA, Stoffel M, Dichabeng MN, Shifa JZ. Preoperative fasting times in elective surgical patients at a referral Hospital in Botswana. *Pan Afr Med J*. 2016;23:102. <https://doi.org/10.11604/PAMJ.2016.23.102.8863>.
- Ljungqvist O, Nygren J, Thorell A. Insulin resistance and elective surgery. *Surgery*. 2000;128(5):757–760. <https://doi.org/10.1067/MSY.2000.107166>.
- Power S, Kavanagh DO, McConnell G, et al. Reducing preoperative fasting in elective adult surgical patients: a case-control study. *Ir J Med Sci*. 2012;181(1):99–104. <https://doi.org/10.1007/s11845-011-0765-6>.
- Yılmaz M, Çelik M. The effects of preoperative fasting on patients undergoing thoracic surgery. *J Perianesth Nurs*. 2021;36(2):167–173. <https://doi.org/10.1016/j.jopan.2020.08.011>.
- Tosun B, Yava A, Açıkel C. Evaluating the effects of preoperative fasting and fluid limitation. *Int J Nurs Pract*. 2015;21(2):156–165. <https://doi.org/10.1111/ijn.12239>.

52. Peixe-Machado PA, de Oliveira BD, Dock-Nascimento DB, de Aguilar-Nascimento JE. Shrinking preoperative fast time with maltodextrin and protein hydrolysate in gastrointestinal resections due to cancer. *Nutrition*. 2013;29:1054–1059. <https://doi.org/10.1016/j.nut.2013.02.003>.
53. Njoroge G, Kivuti-Bitok L, Kimani S. Preoperative fasting among adult patients for elective surgery in a Kenyan referral hospital. *Int Sch Res Notices*. 2017;2017:1–8. <https://doi.org/10.1155/2017/2159606>.
54. Kyrtatos PG, Constandinou N, Loizides S, Mumtaz T. Improved patient education facilitates adherence to preoperative fasting guidelines. *J Perioper Pract*. 2014;24(10):228–231. <https://doi.org/10.1177/175045891402401003>.
55. Van Noort HHJ, Lamers CR, Vermeulen H, Huisman-De Waal G, Witteman BJM. Patient education regarding fasting recommendations to shorten fasting times in patients undergoing esophagogastroduodenoscopy: a controlled pilot study. *Gastroenterol Nurs*. 2022;45(5):342–353. <https://doi.org/10.1097/SGA.0000000000000678>.
56. Balakas K, Smith JR. Evidence-based practice and quality improvement in nursing education. *J Perinat Neonatal Nurs*. 2016;30(3):191–194. <https://doi.org/10.1097/JPN.0000000000000197>.
57. Bozdoğan Ş.N, Koçaşlı S. Malnutrition in surgery patients within the framework of the Eras Protocols. *TÜSBAD*. 2022;5(2):85–100. <https://doi.org/10.51536/tusbad.1098697>.
58. Black AT, Balneaves LG, Garossino C, Puyat JH, Qian H. Promoting evidence-based practice through a research training program for point-of-care clinicians. *J Nurs Adm*. 2015;45(1):14–20. <https://doi.org/10.1097/NNA.0000000000000151>.

Appendix A. Supplementary Materials**Supplementary 1: Assessment of Study Compliance With the COREQ 32-Item Checklist**

Domain	No	Criterion/Question	Status	Explanation
Domain 1: Research Team and Reflexivity (Items 1-8)	1	Was the interviewer identified?	Yes	It was stated that the interviews were conducted by the lead researcher.
	2	Was the interviewer's gender specified?	Yes	The term "female researcher" is used.
	3	Was the interviewer's occupation and role described?	Yes	Nursing background and current academic role are explained.
	4	Was the relationship with participants stated?	Yes	It is clearly stated that there was no prior relationship with participants.
	5	Was a relationship established before the study?	Yes	It is indicated that no prior relationship existed.
	6	Were the researcher's assumptions or interests disclosed?	Partial	Professional experience is mentioned, but no direct reference to biases.
	7	Was the researcher's experience/training described?	Yes	Postgraduate training in qualitative research is noted.
	8	Was reflexivity discussed?	Partial	Objectivity is implied but reflexivity is not explicitly discussed.
Domain 2: Study Design (Items 9-23)	9	Was the methodological approach stated?	Yes	Phenomenological qualitative approach is clearly stated.
	10	Was the sampling strategy explained?	Yes	Purposive sampling was used and described.
	11	Was participant selection justified?	Yes	Participants were selected based on professional diversity.
	12	Was the number of participants stated?	Yes	In total, 18 participants are reported in detail.
	13	Was the number who refused to participate reported?	No	The number of refusals is not mentioned.
	14	Were participant characteristics described?	Yes	Age, experience, and profession data are presented in a table.
	15	Was the interview setting described?	Yes	Interviews were conducted one-on-one in quiet, appropriate settings.
	16	Were others present during the interview?	Yes	Only the researcher and participant were present.
	17	Was the duration of interviews stated?	Yes	Interview duration ranged from 25-45 min.
	18	Were repeat interviews conducted?	No	No information on repeat interviews is given.
	19	Were audio recordings made?	Yes	Audio recordings were clearly stated.
	20	Were field notes made?	Yes	Field notes were mentioned.
	21	Was data saturation discussed?	Yes	Data saturation was reported.
	22	Were transcripts returned to participants for comment?	Yes	Member checking was conducted.
Domain 3: Analysis and Findings (Items 24-32)	23	Were interview questions piloted?	No	No mention of pilot testing.
	24	Was the number of coders reported?	Yes	It was stated that coding was done solely by the researcher.
	25	Was a coding tree provided?	Yes	Themes and subthemes were tabulated.
	26	Were themes derived from data?	Yes	Thematic analysis was described clearly and systematically.
	27	Was software used?	Yes	Manual coding was used; no software was utilized.
	28	Were participants given feedback on findings?	Yes	Participants reviewed the data.
	29	Were participant quotations presented?	Yes	Direct quotations were used to support themes.
	30	Was consistency between data and findings ensured?	Yes	Quotations and themes were consistent.
	31	Were major themes clearly presented?	Yes	Four main themes were clearly presented.
	32	Were diverse cases presented?	Yes	Alternative perspectives were included.