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ORGANIZATIONAL AND INDIVIDUAL FACTORS LEADING TO CLINICAL PRACTICE DEVIATIONS AMONG NURSES IN PAKISTAN: A QUALITATIVE STUDY

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Abstract

Background: *Clinical practice deviations among nurses can compromise patient safety, yet little is known about the interplay of organizational and individual factors contributing to these deviations in Pakistan.* ***Objective:*** *This study aimed to explore the systemic, educational, and behavioral factors influencing clinical practice deviations among nurses in public and private healthcare settings in Pakistan.*

Methods: *A qualitative case study design was employed. Twelve participants, including six clinical nurses and six administrative nurses, were purposive sampled from multiple healthcare facilities. Data were collected through semi-structured interviews and analyzed using Braun and Clarke's six-phase thematic analysis framework.*

Results: *Four major themes emerged: (1)* ***Organizational pressures and resource constraints****–staff shortages, limited supplies, and unclear policies; (2)* ***Knowledge gaps and skill limitations****–unequal training backgrounds and lack of continuous professional development; (3)* ***Individual pressures and behavioral factors****–burnout, moral distress, and normalization of shortcuts; and (4)* ***Leadership and supervisory dynamics****–inconsistent supervision, communication gaps, and punitive culture. Deviations were influenced by both systemic barriers and personal coping strategies, with clinical nurses emphasizing practical challenges and administrators highlighting policy and cultural issues.*

Conclusion: *Clinical practice deviations in Pakistani healthcare settings result from a complex interaction between organizational flaws and individual factors. Interventions addressing staffing, resource allocation, training, and supportive leadership are critical to enhancing adherence to clinical standards and improving patient safety.*

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INTRODUCTION

Policymakers, healthcare analysts, and funder constantly put pressure on today's healthcare systems to deliver high-quality care while simultaneously preserving operational efficiency and cost-effectiveness in an unpredictable, volatile, and interconnected environment (Leufvén et al., 2015). Patient-Centred Medical Homes (PCMHs) and Accountable Care Organizations (ACOs) are two examples of high-performing primary care delivery models that are being established globally (Quigley et al., 2021).These present reform measures have a limited lifespan because the healthcare landscape is constantly facing new problems due to shifting demographics, changing political objectives, and persistent financial worries. One healthcare constant is the system's ability to adapt and respond effectively to these changing conditions and evolving patient needs (Rushmer et al., 2004).

Clinical practice deviations, or departures from established norms or protocols in nursing care, are a major global health concern, and developing nations like Pakistan are not an exception. These variations may raise morbidity, jeopardize patient safety, and have unfavorable effects. Such discrepancies may be caused by a number of systemic issues facing Pakistan's healthcare system, such as staffing shortages, a lack of resources, and a poor safety culture.Safe nursing practice has been found to be hampered at the organizational level by elements like limited staffing, unfavorable management structures, poor error-reporting procedures, and resource limitations. For instance, Jafree et al. discovered that an unfavorable organizational culture—specifically, inadequate personnel and resources, a lack of error-reporting procedures, and insufficient foundations for high-quality care—was present in public-sector hospitals in Pakistan (Jafree et al., 2015). One of the primary factors influencing an organization's performance in a highly competitive market is its staff. When managed effectively, their dedication can yield benefits for the company, including increased effectiveness, less absenteeism turnover, and better performance and productivity on both an individual and organizational level. When employees are happy in their jobs, they work hard and are committed to the organization [6]. It is generally assumed that contented employees would fulfill their responsibilities with a high level of dedication [7].

Employee satisfaction increases productivity and has a beneficial impact on organizational outcomes, which improves overall performance (Karabati, Ensari, & Fiorentino, 2019). Employee performance is influenced by a variety of factors. Positive organizational elements, such as a supportive culture, work ethics, clear communication, acknowledgment of one's accomplishments, and gratitude, can improve employee performance and overall organizational efficiency. Conversely, unfavorable elements including unclear goals, poor communication, occupational stress, a lack of supervisor support, and a disruptive work environment demotivate people and cause their performance to diminish (Indrayani et al., 2024). Globally, public sector performance appears to be declining as emphasis has switched to increased production and efficiency without increasing input (Nabukeera, Ali & Raja, 2014).

In nursing professional individual practices, awareness, stress, and attitudes are important factors. Medication errors, for example, are a recurring problem. According to a recent study conducted in Punjab, a considerable percentage of nurses were unaware of their hospital's medication error policy, and many misjudged "near misses" as unimportant (Riaz et al., 2025). Furthermore, issues like role stress (e.g., role conflict, ambiguity) has been demonstrated to increase turnover intentions among Pakistani healthcare workers, mediated by organizational cynicism and moderated by self-efficacy. These issues reflect deeper, more personal-level problems (Nazir et al., 2022). Lack of training, time constraints, and inadequate resources also make it difficult to apply the nursing process, which is a fundamental component of professional nursing practice in Pakistan (Khan et al., 2025). Moreover, one kind of clinical deviation is missed nursing care, which includes activities that are neglected, postponed, or only one half finished. A 2022 cross-sectional survey conducted in Karachi's tertiary care institutions revealed that inadequate communication, a lack of personnel, and a lack of material resources were the primary causes of missed care (Aziz et al., 2025).

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Despite the recognition of error reporting and patient safety culture in Pakistani hospitals, there is insufficient empirical evidence on how organizational and individual factors interact to drive clinical practice deviations specifically (beyond error reporting). To identify organizational factors (e.g., staffing levels, resource adequacy, leadership, reporting culture) that are associated with clinical practice deviations among nurses in public and/or private hospitals in Pakistan.

Methodology

This study employed a **qualitative case study design** to explore organizational and individual factors contributing to clinical practice deviations among nurses in Pakistan. A case study approach was selected because it allows for an in-depth examination of complex phenomena within real-life contexts, particularly those influenced by organizational structures, workplace culture, and individual decision-making. Qualitative methods enabled the researchers to capture nuanced perspectives, lived experiences, and contextual factors shaping nursing practice. The study was conducted in selected public and private healthcare facilities across Pakistan, including hospitals where both clinical nursing staff and nursing administrators are employed. These settings were chosen to provide a comprehensive understanding of clinical practice deviations across different organizational environments.

A **purposive sampling** technique was used to identify information-rich participants who had direct experience with clinical practice processes, adherence protocols, and administrative oversight. The sample consisted of **12 participants**, including: **6 clinical nurses** directly involved in patient care**6 nurses in administrative or supervisory roles** . responsible for monitoring and enforcing clinical practice standards. This distribution allowed for comparison between front-line experiences and administrative perceptions related to clinical deviations. The inclusion criteria was: registered nurses with at least one year of experience, nurses currently working in clinical or administrative nursing roles, ability to communicate in English or Urdu and willingness to participate voluntarily. Student nurses or trainees and nurses not directly involved in clinical decision-making or oversight.

Data were collected using **semi-structured, in-depth interviews**. An interview guide was developed based on existing literature and expert consultation. The guide included open-ended questions focusing on:

- Perceptions of clinical practice deviations
- Organizational pressures influencing clinical decisions.
- Individual factors such as knowledge, workload, moral distress, and risk perception.
- System-level challenges (e.g., staffing shortages, resource constraints).
- Supervisory practices and administrative policies.

Each interview lasted **30–60 minutes** and was conducted either face-to-face or via secure online platforms, depending on participant availability and geographic location. All interviews were audio-recorded with consent and later transcribed verbatim.

Data were analyzed using **thematic Analysis**, following the six-phase framework proposed by Braun and Clarke:

- **Familiarization with data** through repeated reading of transcripts
- **Generating initial codes** based on recurring patterns and meaningful segments
- **Searching for themes** by grouping related codes
- **Reviewing themes** to ensure coherence and alignment with the data-set.
- **Defining and naming themes** to refine thematic categories
- **Producing the report** by integrating thematic findings with narrative descriptions

Analysis was conducted manually and supplemented with qualitative analysis to ensure systematic coding and data organization.

To enhance the rigor of the study, the following strategies were employed:

- **Credibility:** Member checking was conducted by sharing summaries of findings with selected participants for validation.
- **Dependability:** An audit trail documenting data collection, coding decisions, and analysis procedures was maintained.

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- **Confirmability:** Reflexive notes ensured that researcher biases were acknowledged and minimized.
- **Transferability:** Thick descriptions of participants' contexts and experiences were provided to facilitate application to similar settings.

Ethical approval was secured from the Institutional Review Board, ensuring participants were informed about the study's voluntary nature and confidentiality. Informed consent was obtained, and data were anonymize and stored securely. Thematic analysis revealed four major themes and twelve sub-themes related to organizational and individual factors affecting clinical practice deviations among nurses in Pakistan, noted consistently among clinical and administrative participants with variations in emphasis.

Results:

The total participants of the study 12, that contain 6 clinical nurses (CN) and nurses working in administrative positions (AN), from both public and private sectors. (See table 1).

Table 1: Demographic data of the participants

Participant Code	Role	Gender	Experience (Years)	Hospital Type
CN1–CN6	Clinical Nurse	Mixed	2–3	Public/Private
AN1–AN6	Administrative Nurse	Mixed	5–22	Public/Private

Themes and Sub-themes of the study

As a result of thematic analysis four major themes were emerged (see figure 1).

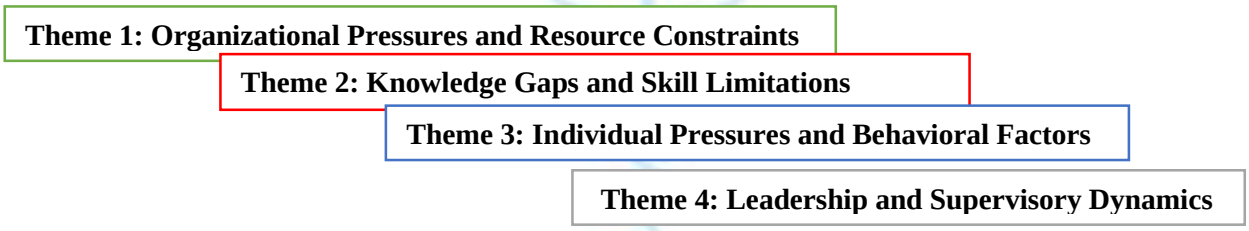

Figure 1: Major themes of the study

Theme 1: Organizational Pressures and Resource Constraints

Clinical and administrative participants widely reported systemic issues that forced nurses to deviate from established clinical practices.

Participants described shortage of staff, resulting in unsafe nurse-patient ratios and rushed care.

> *"When you are responsible for 25 patients, following every step of protocol becomes impossible."* — CN3
>
> *"We know the standards, but we don't have the staff to meet them."* — AN2

Inconsistent supply of basic materials such as PPE, sterile items, and medication contributed to deviation from best practices.

> *"If syringes or gloves run out, nurses improvise. It's not ideal but what else can they do?"* — AN5
>
> *"We skip some infection control steps because we simply don't have the supplies."* — CN1

Policies existed but were often unclear, outdated, or difficult to implement.

> *"The protocols come from the administration, but they don't match the reality of our wards."* — CN4
>
> *"Policies are there, but nobody monitors them consistently."* — AN3

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Table 2: Theme 1: Organizational Pressures and Resource Constraints		
Subtheme	**Description**	**Quote**
1.1 Staffing Shortages	Excess workload leading to shortcuts and missed steps	"When responsible for 25 patients, protocols become impossible." (CN3)
1.2 Limited Supplies	Absence of equipment contributing to unsafe practices	"If supplies run out, nurses improvise." (AN5)
1.3 Policy Issues	Policies unclear or poorly implemented	"Protocols don't match ward reality." (CN4)

Theme 2: Knowledge Gaps and Skill Limitations

Both groups reported that variation in training and ongoing education contributed to non-adherence to proper clinical procedures.

Differences in educational background influenced competence.

"Some nurses come from diploma schools with limited hands-on training." — AN6

Most participants reported insufficient refresher training, especially in high-risk procedures.

"After we graduate, very few training programs are offered." — CN2

Table 3: Theme 2: Knowledge Gaps and Skill Limitations		
Subtheme	**Description**	**Quote**
2.1 Training Variability	Unequal foundational knowledge among nurses	"Some come with very limited hands-on training." (AN6)
2.2 Lack of CPD	Minimal ongoing training opportunities	"Very few refresher programs are offered." (CN2)

Theme 3: Individual Pressures and Behavioral Factors

Personal motivations, emotional strain, and coping strategies emerged as key drivers.

High stress and emotional exhaustion led to mistakes or intentional shortcuts.

"After long shifts, you just cannot think clearly." — CN5

Repeated exposure to system failures normalized unsafe behaviors.

"If no one stops you, you start believing the shortcut is acceptable." — CN6

Some nurses felt forced to deviate from practice despite ethical discomfort.

"I know it's wrong, but sometimes I have no choice." — CN1

Table 4 Theme 3: Individual Pressures and Behavioral Factors		
Subtheme	**Description**	**Quote**
3.1 Burnout	Exhaustion leading to lapses	"After long shifts, you cannot think clearly." (CN5)
3.2 Normalization of Deviance	Shortcuts become routine	"You start believing the shortcut is acceptable." (CN6)
3.3 Moral Distress	Ethical discomfort when deviating	"Sometimes I have no choice." (CN1)

Theme 4: Leadership and Supervisory Dynamics

Administrative oversight and leadership practices shaped whether deviations were prevented or overlooked.

Supervision was inconsistent, often limited to paperwork rather than direct observation.

"Supervision mostly means checking files, not actual practice." — CN2

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Misalignment between managers and front-line nurses intensified tensions.

"We tell them the problems, but they don't take action." — CN3

Some administrators relied on punitive measures rather than supportive coaching.

"Nurses hide their mistakes because they fear punishment." — AN4

Table 5 Theme 4: Leadership and Supervisory Dynamics		
Subtheme	**Description**	**Quote**
4.1 Poor Supervision	Supervisory practices fail to detect deviations	"Checking files, not practice." (CN2)
4.2 Communication Gaps	Staff concerns not addressed	"They don't take action." (CN3)
4.3 Punitive Culture	Fear reduces honest reporting	"Nurses hide mistakes due to fear." (AN4)

The qualitative research reveals a complex interaction between personal coping strategies and organizational flaws. Systemic obstacles like staffing shortages and insufficient resources frequently caused nurses to stray from traditional clinical practices, and human reasons like burnout, knowledge gaps, and moral discomfort made the issue worse. While clinical nurses concentrated on day-to-day practical obstacles, administrative participants highlighted policy constraints and cultural issues.

Discussion

This qualitative case study explored organizational and individual factors contributing to clinical practice deviations among nurses in Pakistan. The four themes generated through thematic analysis—**organizational pressures**, **knowledge gaps**, **individual behavioral factors**, and **leadership dynamics**—highlight a complex interplay between systemic and personal determinants of practice. These findings align with global evidence and contribute uniquely to the South Asian nursing practice context.

In the current study the participants Participants reported systemic issues in nursing, including shortage of staff leading to unsafe nurse-patient ratios and high number of patient. The lack of basic supplies, such as PPE and medication, forced nurses to deviate from clinical protocols. Additionally, existing policies were often unclear or outdated, creating further obstacles to adherence. Overall, the disconnect between administrative protocols and ward realities contributed to compromised patient care. Participants recognized personnel shortages, insufficient supplies, and fragmented policies as significant drivers to clinical practice deviations, which is consistent with prior evidence. Clinical and administrative nurses' reports of persistent understaffing and excessive workloads are consistent with findings from recent research conducted in low- and middle-income countries (LMICs), where nurse-patient ratios routinely surpass suggested limits (Saber et al., 2023; WHO, 2022). Large patient loads make it difficult for nurses to follow procedures, which increases their reliance on short cuts and jeopardizes patient safety.

Research from Pakistan and surrounding areas, which emphasizes supply chain irregularities as a recurring obstacle to high-quality care, is also in line with the reported scarcity of necessary equipment like PPE, sterile supplies, and pharmaceuticals (Khalid & Gul, 2021; Karmakar et al., 2023). Additionally, participants noted antiquated or ineffective organizational policies that were frequently out of step with actual clinical settings. This is consistent with research by Al-Busaidi et al. (2020), who found that when administrative directives are not based on frontline reality, policy–practice gaps occur. Concerns regarding poor governance in nursing systems around the world are also reflected in the absence of oversight or uneven enforcement (ICN, 2023). Together, these findings reinforce the notion that clinical deviations are often system-induced rather than individual failures, consistent with the systems approach to patient safety (Reason, 2012).

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In the Present study Both groups indicated that differences in training and ongoing education contributed to non-adherence to clinical procedures, with educational background affecting competence. Many participants expressed a lack of refresher training, particularly for high-risk procedures, noting that few training programs are available post-graduation. Deviations were shown to be largely caused by variations in initial training and a lack of continuous clinical development. Studies conducted in South Asia have long observed differences in educational background, especially between nurses with a diploma and those with a degree (Shah et al., 2022). This is corroborated by our findings, which show that nursing staff members' skill readiness varies.

According to recent research, nurses in Pakistan and other LMICs have limited access to structured competency-based training, which is associated with the lack of opportunities for continuous professional development (CPD) (Ali & Mehdi, 2023). Adherence to protocols gradually decreases in the absence of frequent refresher training, particularly in high-risk procedures like medicine delivery or infection control (Fowler et al., 2021). This is consistent with global data showing that CPD boosts confidence, lowers errors, and improves care quality (OECD, 2022).Thus, knowledge and skill deficits depicted in this study reflect systemic gaps in the educational and professional development infrastructure.

Personal motivations and emotional strain are significant factors influencing nursing practices. High levels of stress and exhaustion often result in errors or the inclination to take shortcuts. Normalization of unsafe behaviors occurs due to repeated exposure to system failures, leading some nurses to feel compelled to break protocols despite ethical concerns.

Themes pertaining to moral anguish, burnout, and the normalization of transgression highlight the internal costs incurred by nurses operating under limited systems. Clinical nurses' description of emotional weariness as a barrier to safe decision-making is consistent with international research that links burnout to a rise in clinical errors and a decline in the quality of patient care (Dyrbye et al., 2017; García-Ortiz., 2024). Similar results have been shown among nurses in Pakistan who work long shifts without enough organizational support (Naz et al., 2022).

Safety-critical professions have highlighted the normalization of deviance, where risky workarounds become commonplace. Our results are consistent with those of Kohn et al. (2021), who contend that employees adopt practices that eventually gain cultural acceptance while systemic limitations continue. In therapeutic settings with insufficient staff, this condition is especially prevalent. Recent research on ethical difficulties in settings with low resources is consistent with moral discomfort, which is defined as nurses feeling morally uncomfortable but forced to stray from best practices (Lamiani et al., 2022). Similar findings from South Asian research indicate that moral distress develops when nurses must balance the needs of practical realities with policy expectations (Sultana et al., 2023). These results underline that deviations frequently represent coping strategies rather than deliberate carelessness, underscoring the emotional and moral strain placed on nurses.

Administrative oversight and leadership practices influenced the prevention or overlooking of deviations in nursing. Supervision tended to focus on paperwork instead of direct observation, leading to dissatisfaction among nurses. Tensions arose due to a disconnect between managers and front-line staff, with nurses feeling that their concerns were ignored. Additionally, punitive measures from some administrators fostered an environment where nurses concealed mistakes out of fear of punishment. Nurses' adherence to standards was greatly impacted by inadequate supervision, communication obstacles, and harsh management techniques. Participants reported that supervision was mostly documentation-focused rather than practice-focused, which is consistent with studies from around the world that administrative oversight frequently places more emphasis on audit trails than on in-the-moment clinical mentoring (Kim et al., 2022). In LMIC healthcare systems, where hierarchical structures may restrict candid communication, communication gaps between frontline employees and administration have been extensively reported (Mahmood et al., 2021). Similar conflicts are reflected in our findings, where nurses claim that their concerns are not

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addressed, which exacerbates their sense of helplessness.

Additionally, participants' emphasis on fear-based leadership is consistent with research demonstrating that punitive environments discourage disclosing errors and encourage covert deviations (AbuAlRub et al., 2022). Stronger teamwork and better adherence to therapeutic standards are linked to psychologically secure surroundings, according to numerous studies (Edmondson, 2019). In order to reduce clinical aberrations, the theme emphasizes the significance of transformational, supporting, and participatory leadership.

Together, the themes illustrate clinical deviations as a multifaceted issue stemming from systemic constraints and individual coping strategies. Organizational weaknesses, such as inadequate staffing and policy gaps, foster an environment where deviations are ingrained. Factors like burnout and emotional strain perpetuate these deviations, influenced by leadership practices that determine visibility and corrective measures. This supports socio-technical systems theory, which emphasizes that performance is shaped by organizational and cultural factors. In Pakistan, where resource challenges are prevalent, this study provides qualitative insights into how nurses cope with these constraints and their impact on clinical practice.

Together, the four themes depict clinical deviations as a **multifactorial problem** arising from intersecting system-level constraints and individual coping mechanisms. Organizational weaknesses—staffing, supplies, policy gaps—create an environment where deviations become structurally embedded. Individual factors such as burnout, emotional strain, and normalized shortcuts reinforce these deviations over time. Leadership practices then influence whether these patterns remain hidden, accepted, or corrected. The studies aligns strongly with the **socio-technical systems theory**, which posits that human performance and safety behaviors are shaped by organizational, environmental, and cultural factors rather than solely individual decisions (Carayon et al., 2021). In the Pakistani context, where resource limitations and governance challenges are well documented, this study provides important qualitative evidence illustrating how nurses navigate these constraints and the consequences on clinical practice.

The study have several limitations such as sample size that involved 12 participants (6 clinical and 6 administrative nurses), allowing for detailed insights but limiting generalizability to the broader nurse population in Pakistan. Participants were purposive selected for rich information, which may lead to selection bias, excluding diverse experiences. Conducted in selected healthcare facilities, the findings may not represent rural hospitals or smaller clinics, affecting Transferability. Semi-structured interviews relied on self-reporting, potentially introducing social desirability bias, particularly on sensitive topics. Language barriers in English or Urdu may have hindered some participants from fully conveying their experiences, further limiting data depth.

Conclusion

This study examines factors influencing clinical practice deviations among nurses in Pakistan, revealing that these deviations stem from both organizational challenges and individual pressures. Key issues include staffing shortages, limited supplies, and unclear policies, which hinder adherence to protocols. Individual factors like burnout and moral distress also contribute to unsafe practices. The role of leadership is crucial, with punitive approaches discouraging reporting. The findings suggest addressing deviations requires systemic interventions, such as improving staffing, offering ongoing training, and fostering a safe communication culture, thereby linking structural and human factors to enhance patient safety and care quality.

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