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Original Research Article

KNOWLEDGE, ATTITUDE AND PRACTICES OF INTENSIVE CARE UNIT NURSES ABOUT PHYSICAL RESTRAINT AT TERTIARY CARE HOSPITAL LAHORE

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Abstract: *Physical restraint is a common intervention in intensive care units (ICUs) to ensure patient safety and prevent harm. However, its inappropriate use poses ethical and clinical challenges, particularly in resource-constrained healthcare systems like Pakistan.* ***Objective:*** *To assess the knowledge, attitudes, and practices of ICU nurses regarding physical restraint in a tertiary care hospital in Lahore, Pakistan.* ***Methods:*** *A descriptive cross-sectional study was conducted among 137 ICU nurses using a structured questionnaire. The data were analyzed using SPSS version 26, with results presented as frequencies and percentages.* ***Results:*** *The study revealed that 47.1% of nurses demonstrated moderate knowledge of physical restraint, while 33.1% exhibited good knowledge. Attitudes were mixed, with 52.2% displaying positive attitudes and 47.8% exhibiting negative attitudes. Good practices were reported by 61.8% of nurses, whereas 38.2% showed poor adherence to recommended protocols. Nurses with higher qualifications and greater experience demonstrated significantly better knowledge and practices.* ***Conclusion:*** *Despite moderate knowledge and adherence to some practices, gaps in attitudes and inconsistent protocol adherence remain challenges in ICU settings. Targeted education, institutional support, and clear policies are essential to enhance nurses' competency in the ethical and effective use of physical restraints.*

Keywords: Physical Restraint, ICU Nurses, Knowledge, Attitudes, Practices, Patient Safety, Pakistan

Introduction

Physical restraint is a common practice in intensive care units (ICUs) globally, employed to ensure patient safety, prevent self-harm, and support the effectiveness of medical interventions. However, its use raises ethical, psychological, and clinical concerns, particularly when alternative measures are not adequately explored or implemented. The knowledge, attitudes, and practices (KAP) of ICU nurses play a critical role in determining the appropriateness and effectiveness of physical restraint in healthcare settings (1). In Pakistan, where ICUs are often overwhelmed with high patient loads and limited resources, the use of physical restraints remains a frequent practice. However, the decision to use restraints is often influenced by nurses' knowledge and attitudes, as well as institutional policies. Studies have highlighted that inadequate training and misconceptions about physical restraint can lead to inappropriate usage, compromising patient care and safety (2, 3). Moreover, cultural norms and family involvement in patient care add a unique dimension to the decision-making process in Pakistani healthcare settings (4).

Globally, research has shown that physical restraint is associated with both benefits and risks. For instance, a study in the United States reported that while restraints can prevent patients from pulling out life-saving devices, they are also linked to physical injuries and psychological distress(5). In developing countries like India and Bangladesh, studies have demonstrated significant gaps in nurses' knowledge and adherence to restraint protocols, emphasizing the need for targeted training and institutional guidelines (6, 7). In Pakistan, limited research exists on the KAP of ICU nurses regarding physical restraint. Ahmed et al. found that 70% of nurses in public hospitals lacked proper knowledge about restraint protocols, leading to inconsistent practices (8). Similarly, a study conducted in Karachi revealed that negative attitudes toward restraint use often resulted in either over-reliance or complete avoidance of restraints, underscoring the need for balanced and evidence-based approaches(9).

To address these challenges, international organizations like the American Association of Critical-Care Nurses (AACN) and the World Health Organization (WHO) recommend regular training, adherence to ethical guidelines, and exploration of non-restrictive measures before implementing physical restraints (10, 11). However, the applicability of these recommendations in resource-limited settings like Pakistan requires further investigation.

This study aims to assess the knowledge, attitudes, and practices of ICU nurses regarding physical restraint in a tertiary care hospital in Lahore, Pakistan. By identifying gaps and challenges, the findings will inform the development of targeted interventions and policies to improve patient safety and care quality in ICUs.

Methodology

The study employed a descriptive cross-sectional design to evaluate the knowledge, attitudes, and practices of ICU nurses regarding physical restraint in a tertiary care hospital in Lahore, Pakistan. This design was chosen to provide a comprehensive snapshot of the participants' current understanding, perceptions, and behaviors concerning physical restraint. A purposive sampling technique was used to recruit 137 ICU nurses working in the medical, surgical, and cardiac ICUs of the hospital. The inclusion criteria required participants to have at least one year of

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clinical experience in ICU settings and to be directly involved in patient care. Nurses on extended leave or those unwilling to provide informed consent were excluded. The sample size was determined to ensure statistical validity and representativeness within the defined population. Data were collected using a structured, pre-validated questionnaire, which was designed based on existing literature and expert input to ensure reliability and content validity. The questionnaire consisted of three sections: demographic information, knowledge assessment, and evaluation of attitudes and practices related to physical restraint. The demographic section included variables such as age, gender, marital status, educational qualifications, years of experience, and department. The knowledge section assessed understanding of physical restraint principles, while the attitude and practice sections explored perceptions and adherence to best practices. Ethical approval for the study was obtained from the institutional ethics review board of the hospital. Participants were informed about the study's purpose, and written informed consent was obtained before data collection. Anonymity and confidentiality were assured, and participants were informed of their right to withdraw at any stage without consequences. The questionnaires were distributed to participants during their shifts, and sufficient time was provided for completion. A trained research assistant was available to clarify any questions and ensure accurate responses. Completed questionnaires were reviewed for completeness and securely stored to maintain data integrity.

Data were analyzed using SPSS version 26. Descriptive statistics, including frequencies and percentages, were calculated to summarize demographic characteristics and responses related to knowledge, attitudes, and practices. Inferential statistics were employed to identify significant associations between demographic factors and outcomes. The results were presented in tables and figures to facilitate clarity and comprehension.

Results

This study aimed to assess the knowledge, attitudes, and practices of intensive care unit (ICU) nurses regarding physical restraint in a tertiary care hospital in Lahore, Pakistan. A total of 137 ICU nurses participated in the study. The majority were female (61%), aged between 20 and 25 years (55.1%). Most participants were single (60.3%), had a diploma in general nursing (37.5%), and had 1–3 years of clinical experience (64.7%). Medical ICU nurses comprised the largest group of participants (47.8%) (Table 1).

Participants demonstrated varying levels of knowledge regarding physical restraint. The majority (47.1%) had moderate knowledge, while 33.1% had good knowledge, and 19.9% had poor knowledge. Key knowledge-related questions and responses are summarized in Table 2.

Regarding attitudes, 52.2% of nurses displayed positive attitudes, while 47.8% exhibited negative attitudes. Table 3 outlines key attitude-related questions and participant responses.

Regarding attitudes, 52.2% of nurses displayed positive attitudes, while 47.8% exhibited negative attitudes. Table 3 outlines key attitude-related questions and participant responses.

Most participants reported moderate adherence to best practices regarding physical restraint. Good practices were reported by 61.8% of nurses, while 38.2% demonstrated poor practices. Table 4 summarizes key practice-related findings.

The findings indicate that while a significant proportion of nurses have moderate knowledge and adhere to good practices, there is a notable percentage demonstrating poor knowledge, negative attitudes, and inconsistent practices. These gaps underscore the need for enhanced training programs, institutional support, and regular monitoring to improve compliance with safety protocols and patient care standards in ICU settings

Table 1: Demographic Characteristics of Nurses

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	20–25	75	55.1
	26–30	46	33.8
	31–35	15	11.0
Gender	Male	48	35.3
	Female	83	61.0
Marital Status	Single	82	60.3
	Married	51	37.5
Qualification	General Nursing	51	37.5
	Post RN	46	33.8
	BSN Generic	39	28.7
Experience (years)	1–3	88	64.7
	4–6	42	30.9
	7–9	6	4.4
Department	Medical ICU	65	47.8
	Surgical ICU	52	38.2
	Cardiac ICU	19	14.0

Table 2: Knowledge of Physical Restraint

Question	Agree (%)	Disagree (%)	Neutral (%)
Physical restraints are safety garments	64.0	28.7	7.4
Restraints require a physician's order	59.6	31.6	8.8
Restraints should be released every 2 hours	53.7	30.9	15.4

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Table 3: Attitudes Toward Physical Restraint

Question	Agree (%)	Neutral (%)	Disagree (%)
Nurses have the right to refuse to use restraints	53.7	11.0	35.3
Restraints are used due to staff shortages	55.1	2.2	42.6
Family should be informed about restraints	54.4	7.4	38.2

Table 4: Practices of Physical Restraint

Practice	Always (%)	Sometimes (%)	Never (%)
Alternative measures tried before restraint	55.1	39.0	5.9
Restraints checked every 2 hours	57.4	40.4	2.2
Skin inspected for abrasions during bathing	64.7	31.6	3.7

Discussion

This study assessed the knowledge, attitudes, and practices of ICU nurses regarding physical restraint in a tertiary care hospital in Lahore, Pakistan. The findings reveal significant gaps in knowledge and practices, as well as mixed attitudes toward the use of physical restraints. These results are consistent with previous studies conducted in similar settings both locally and internationally.

The study found that 47.1% of nurses demonstrated moderate knowledge of physical restraint, while 33.1% had good knowledge. These findings align with Ahmed et al., who reported that 42% of nurses in public hospitals in Karachi had moderate knowledge, highlighting limited awareness of international restraint protocols (12). Similarly, a study conducted in India by Ghosh and Dutta reported that 50% of ICU nurses lacked sufficient knowledge about the appropriate use and ethical considerations of restraints (13). This underlines the need for targeted educational programs to bridge the knowledge gap among nurses in resource-limited settings.

Attitudes toward restraint use were another critical area of concern in this study, with 52.2% of participants displaying positive attitudes. However, 47.8% of nurses expressed reluctance or negative attitudes, which can hinder the appropriate application of restraints. This is consistent with findings by Zafar et al., who reported that 48% of nurses in Karachi were hesitant to use restraints due to concerns about patient rights and ethical dilemmas (14). Globally, Minnick et al. observed similar trends, where 40% of nurses in US hospitals reported negative attitudes toward restraints due to the potential for patient harm and legal repercussions (15).

In terms of practices, the study revealed that while 61.8% of nurses demonstrated good practices, 38.2% exhibited poor adherence to recommended protocols, such as regular monitoring and documentation of restraint use. This aligns with the findings of Rahman and Sultana, who observed that only 60% of nurses in Bangladeshi ICUs adhered to best practices due to time constraints and high patient loads (16). Moreover, Saeed et al. highlighted that a lack of institutional policies often results in inconsistent practices, further exacerbating the issue (17).

The demographic analysis in this study revealed that nurses with higher qualifications (BSN or Post RN) and more experience were more likely to exhibit good knowledge and practices. Johnston et al. reported similar findings in the UK, emphasizing that formal education and clinical experience play a crucial role in enhancing adherence to evidence-based restraint protocols (18). This underscores the importance of incorporating comprehensive restraint training into nursing curricula and professional development programs.

The findings also highlight cultural and systemic factors influencing restraint use in Pakistan. Family involvement in patient care and ethical considerations often complicate decision-making, as reported by Kamal et al. (19). These unique challenges necessitate culturally sensitive training programs and clear institutional guidelines to support nurses in making ethical and informed decisions.

This study's findings align with past research, demonstrating the pervasive gaps in knowledge, attitudes, and practices regarding physical restraint among ICU nurses. Addressing these gaps requires a multifaceted approach, including targeted education, clear institutional policies, and regular monitoring to ensure patient safety and ethical care delivery.

Conclusion

This study highlights significant gaps in the knowledge, attitudes, and practices of ICU nurses regarding physical restraint in a tertiary care hospital in Lahore, Pakistan. While a substantial proportion of nurses demonstrated moderate knowledge and good practices, a notable percentage exhibited poor adherence to protocols and negative attitudes. Nurses with higher qualifications and more experience were more likely to exhibit better knowledge and practices, emphasizing the need for targeted training and educational interventions. Addressing these gaps is critical to ensuring ethical and safe restraint practices, improving patient care, and fostering a supportive clinical environment.

Declarations

Data Availability statement
All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate
Approved by the department Concerned. (IRBEC-SNU-0112/23)

Consent for publication
Approved

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Conflict of interest

The authors declared an absence of conflict of interest.

Author Contribution

NAEEM UR REHMAN (Student Researcher)
Conception of Study, Development of Research Methodology Design, Study Design, Review of manuscript,
HUMAIRA SADDIQUE (Supervisor)
Coordination of collaborative efforts.
Study Design, Review of Literature. final approval of manuscript.
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