Arab American University

Faculty of Graduate Studies

Department of Health Sciences

Master Program in Intensive Care Nursing

Knowledge, Attitudes, and Practice Regarding the Use of Physical Restraints Among ICU Nurses at Palestinian Hospitals in North Area of West Bank

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Thesis Approval

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Declaration

I declare that, except where explicit reference is made to the contribution of others, this thesis is substantially my own work and has not been submitted for any other degree at the Arab American University or any other institution.

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Dedication

I dedicate this work to those who embody true generosity and sacrifice, to those who have given their lives and everything they possess for the sake of our beloved country. This dedication is for the brave and resilient people of the Gaza Strip, the source of our pride and dignity. Your strength and perseverance inspire us all, and this work is a humble tribute to your unwavering spirit.

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Abstract

Background: In intensive care units, physical restraints are frequently used to ensure patient safety but can lead to complications. Research shows that nurses often lack knowledge about proper restraint use, alternatives, and documentation.

Aim: This study was conducted to assess the knowledge, attitudes, and practices of nurses regarding the use of physical restraints in the intensive care units within hospitals in the north area of West Bank.

Population and Sample: The target population for this study includes all ICU nurses in Palestine, while the accessible population focuses specifically on ICU nurses in hospitals in the northern West Bank region. 180 ICU nurses in hospitals in the northern West Bank, Palestine, were conveniently recruited based on predetermined inclusion criteria.

Methods: The study used a cross-sectional design, data were collected between February 2024 and May 2024 through self-report questionnaires on nurses' knowledge, attitudes, and practices regarding the use of physical restraints. The study took place in nine hospitals in the northern West Bank, including six governmental, three private, and one educational hospital.

Results: A total of 180 nurses participated in the study, with 61.7% having moderate knowledge of physical restraints and 80.6% displaying neutral attitudes toward their use. Notably, 58.3% of nurses consistently applied correct practices for physical restraints. Male nurses and those working in private hospitals or specific ICUs demonstrated significantly higher knowledge and practice scores.

Conclusion and Recommendations: ICU nurses in Palestinian hospitals have insufficient knowledge, neutral attitudes, and good practices concerning physical restraints. Improving patient care and safety requires addressing these issues and promoting standardized protocols can improve patient care and safety. The study underscores the need for continuous learning and research to ensure ethical standards and improve the quality of care for ICU nurses. The study recommends longitudinal research across hospital settings, evaluation of educational interventions, in-service training, and standardized protocols. It also recommends family involvement in decision-making, non-physical alternatives, and regular assessment. It also suggests exploring gender dynamics in restraint application and targeted training for female nurses.

Keywords*:* physical restraints, nurses, knowledge, attitudes, practice.

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Abbreviations	Title
ANOVA	Analysis of Variance
CINAHL	Cumulative Index to Nursing and Allied Health Literature
EBSCO	Elton Bryson Stephens Sr. Company
ICU	Intensive Care Unit
IQR	Interquartile Range
IRB	Institutional Review Board
MSN	Master of Science in Nursing
PR	Physical Restrains
RN	Registered Nurse
SD	Standard Deviation
SPSS	Statistical Package for the Social Sciences

Chapter One: Introduction

1.1 Background

In the healthcare setting, ensuring patient safety stands as one of our primary responsibilities as healthcare professionals. It is imperative that we consistently strive for the well-being of our patients. Safeguarding them from harm not only enhances their overall outcomes but also facilitates a more optimistic and quick recovery from the underlying illness that has brought them to our care (The Joint Commission, 2021).

However, the pursuit of patient safety can present challenges that are not always straightforward. Healthcare workers often encounter difficult situations in their careers, requiring quick decision-making under pressure. Nurses, in particular, may find themselves in scenarios where split-second judgments are necessary to address critical situations and ensure the safety of both patients and staff. In instances where patients show altered mental states due to medical conditions, such as delirium or confusion, the need for heightened attention becomes even more crucial. Should a situation intensify to the point where the safety of either the patient or healthcare personnel is compromised, the nurse must employ professional judgment to determine whether the use of physical restraints is warranted (Alikhan & Euler, 2020).

Physical restraint (PR) refers to any action, method, or procedure involving the use of physical, chemical, or mechanical tools to restrict a patient's movement or limit access to their own body. Types of restraint include physical, psychological, chemical, and environmental. It is employed in healthcare settings to immobilize or limit limits a patient's capacity to freely move arms, legs, body, or head without their consent. PR serves as a safety measure utilized by nurses to manage unexpected or potentially harmful movements by patients, ensuring both their safety and the safety of others within the healthcare environment (Bleijlevens et al., 2016; Kaya & Dogu, 2018; Masters, 2017; Negroni., 2017).

In intensive care settings, physical restraints have historically been utilized unquestioningly to prevent interference with life-sustaining medical devices (Perez et al., 2019). Critically ill patients admitted to the intensive care unit (ICU) often require a multitude of invasive procedures and medical devices, such as mechanical ventilation, central venous catheters, and arterial line catheters, to manage their conditions. Unfortunately, these necessary interventions increase the risk of unintentional self-removal of medical devices (Suliman et al., 2017; Nirmalan et al., 2004; Perez et al., 2019). Moreover, patients in the ICU may experience delirium and agitation, exacerbated by the influence of various sedatives (Langley et al., 2011). Consequently, nurses sometimes use physical restraint to safeguard these patients and prevent disruption of their treatment plans (AL-gabri et al., 2015; Cohen et al., 2002; Kısacık et al., 2020; Perez et al., 2019).

Physical restraint is a common practice in many ICUs globally, but its prevalence varies significantly between countries. In the United States and Canada, rates range from 16.6% to 56%, while in Europe, they range from 0% in the United Kingdom and Portugal to 100% in Italy. Australia and New Zealand have an 8% utilization rate, and Japan and Jordan report rates of approximately 33% to 36%. Surveys in China found rates of around 59% to 61%. Notably, specific rates show further disparity, with 23% in Holland and 76% in Canada among mechanically ventilated patients. Switzerland and France consistently exhibit rates around 45–50%, while South Africa reports 48.4%, and Spain ranges from 15% to 43.9% (Acevedo-Nuevo et al., 2021; Cui et al., 2023).

However, despite its widespread use, PR in ICUs is associated with multiple clinical complications. These include neurovascular complications such as redness, limb movement restriction, edema, and circulatory issues, as well as pressure injuries and unplanned extubation. Psychological effects, such as agitation, delirium, posttraumatic stress disorder, depression, anxiety, anger, social isolation, and reduction of personal autonomy, are also commonly observed consequences of PR use in ICUs (Ai et al., 2018; Ertuğrul & Özden, 2020; Jacob et al., 2019; Jones et al., 2007; Liu et al., 2019; Mehta et al., 2015; Mion, 2008; Pan et al., 2018). Hence, when considering the use of physical restraints, it's crucial to thoroughly evaluate the patient to understand the advantages of this approach. This

underscores the importance of having a good understanding of physical restraints (Kaya & Dogu, 2018).

In recent years, research has highlighted a concerning trend in the use of physical restraints among nurses, particularly in intensive care units. Despite the vital role of physical restraints in patient management, studies have revealed a significant lack of knowledge among nurses regarding their purpose, alternative measures, and documentation practices (Kısacık et al., 2020; Perez et al., 2019; Smithard & Randhawa, 2022; Suliman et al., 2017). This deficiency in understanding is compounded by predominantly negative attitudes and unsafe practices towards physical restraint utilization. Additionally, nurses' practices related to physical restraint application are influenced by individual values, competencies, clinical experiences, and environmental factors, underscoring the urgent need for improved protocols and regulations (Cui et al., 2023; Kim & Yang, 2024; Smithard & Randhawa, 2022; Via-Clavero et al., 2020). Furthermore, nurses often struggle with conflicting emotions, such as guilt and frustration, when implementing physical restraint measures. Surprisingly, many nurses fail to recognize the potential adverse effects of physical restraint, such as restlessness, aggression, and injury, highlighting the importance of addressing these knowledge gaps (Möhler & Meyer, 2014; Smithard & Randhawa, 2022). Despite these challenges, there remains a notable lack of research on the use of physical restraints in Palestinian healthcare settings, especially within intensive care units.

This study aims to fill this gap by comprehensively assess the knowledge, attitudes, and practices of nurses regarding the use of physical restraints in the intensive care units within hospitals in the north area of West Bank in Palestine. By evaluating nurses' knowledge, attitudes, and practices concerning physical restraint, the insights gained will not only inform policy-making and hospital administration but also contribute to improving patient care and safety. Moreover, the findings of this study will serve as a basis for developing evidence-based practices and protocols, emphasizing the critical importance of addressing issues related to physical restraint in healthcare settings. Ultimately, this research seeks to advance our understanding of physical restraint utilization among nurses and pave the way for enhanced healthcare practices and patient outcomes.

1.2 Problem Statement

In ICUs, physical restraint is frequently used by healthcare professionals, including nurses, to prevent interference with treatment procedures and protect patients from harm (Perez et al., 2019; Smithard & Randhawa, 2022; Via-Clavero et al., 2020). This practice is often favored over chemical restraint due to concerns about long-term sedation and the risk of psychosis associated with chemical restraint (Martin, 2002). However, despite its widespread use, the prevalence of physical restraint among critically ill patients worldwide remains a subject of debate within the healthcare community, with reported rates ranging from 0% to 100% (Cui et al., 2023). Research has highlighted various adverse psychological and physical consequences associated with PR use in ICUs, including prolonged hospital stays, agitation, aggression, limb edema, skin lacerations at the restraint site, and falls, ultimately leading to suboptimal healthcare quality (Ai et al., 2018; Ertuğrul & Özden, 2020; Jacob et al., 2019; Jones et al., 2007; Liu et al., 2019; Mehta et al., 2015; Mion, 2008; Pan et al., 2018).

Despite these challenges, there is a notable lack of comprehensive guidelines and regulations governing the use of PR in Palestinian ICUs. Furthermore, nurses' knowledge, attitudes and practice regarding physical restraint are critical determinants of the quality of nursing care provided to critically ill patients. Nurses with a higher level of knowledge and more positive attitudes toward physical restraint demonstrate improved nursing practices, leading to enhanced patient care outcomes by minimizing the physical, psychological, and ethical dilemmas associated with restraint use (Kim & Yang, 2024).

However, the knowledge, attitudes, and practice of ICU nurses regarding physical restraint use in Palestinian hospitals, particularly in the North Area of the West Bank, remain poorly understood. This knowledge gap hinders the development of evidence-based guidelines and policies necessary to ensure patient safety and uphold ethical standards in Palestinian ICUs. Therefore, there is an urgent need to assess ICU nurses' knowledge, attitudes, and practice regarding the application of physical restraints to establish clear

criteria based on knowledge and ethical judgment and prepare nurses for effective nursing practices. Addressing these gaps in understanding is essential to improving patient safety, reducing harm, and enhancing the quality of care in Palestinian ICUs.

1.3 Significance of the Study

The significance of studying ICU nurses' knowledge, attitudes, and practices regarding the use of physical restraints is paramount for several reasons. Firstly, it directly impacts patient safety and well-being, given nurses' central role in implementing and monitoring restraint protocols. By pinpointing areas of insufficient knowledge or inappropriate attitudes, interventions can be tailored to enhance patient safety and minimize harm (Kassew et al., 2020; Suliman et al., 2020).

Additionally, understanding nurses' ethical considerations surrounding restraint use is crucial for ensuring that practices align with principles of patient autonomy and dignity. Moreover, insights gleaned from this study can inform strategies for improving the quality of care in intensive care units by identifying areas for education, training, and support. Furthermore, by identifying and mitigating risks associated with inadequate knowledge or improper attitudes, this research can contribute to the development of evidence-based guidelines and protocols. Ultimately, findings from this study will inform policy and practice development, guiding healthcare organizations in implementing effective strategies for restraint use that prioritize patient safety and uphold ethical standards.

The significance of this study lies in its potential to enhance patient care practices and the well-being of both patients and nurses within Palestinian hospitals' intensive care units. By investigating ICU nurses' knowledge, attitudes, and practices concerning the use of physical restraints, this research addresses a critical aspect of nursing care delivery. Understanding how nurses perceive and implement physical restraint protocols can lead to improvements in decision-making processes, ultimately enhancing the quality of patient care (Kassew et al., 2020; Kısacık et al., 2020).

Moreover, the findings of this study can inform policy development, administrative decision-making, and educational strategies within Palestinian healthcare settings. By identifying gaps in knowledge and attitudes among ICU nurses, policymakers can develop guidelines and procedures aimed at promoting patient safety and care quality. Additionally, healthcare administrators can utilize the study's results to guide staff training initiatives and resource allocation, ensuring that administrative decisions align with patient-centered care principles.

Furthermore, this research has broader implications for healthcare professionals and educators. By integrating evidence-based findings into nursing education curricula, academic institutions can equip future nurses with the knowledge and skills necessary to navigate ethical dilemmas, including the use of physical restraints, thus shaping the future practice of healthcare professionals and fostering a culture of empathy and excellence in patient care (Kim & Yang, 2024; Kısacık et al., 2020; Suliman et al., 2020).

1.4 Study Purpose

The aim of this study was to assess the knowledge, attitudes, and practices of nurses regarding the use of physical restraints in the intensive care units within hospitals in the north area of West Bank.

1.5 Research Questions

The study attempts to answer the following research questions:

1. What is the level of knowledge among nurses regarding the use of physical restraints in ICUs within hospitals in the north area of West Bank?
2. What are the attitudes of nurses towards the use of physical restraints in ICUs within hospitals in the north area of West Bank?
3. What is the current level of nursing practice regarding the implementation of physical restraints in ICUs within hospitals in the north area of West Bank?
4. Is there a difference in ICU nurses' knowledge, attitudes, and practices regarding physical restraint use based on demographic variables?

1.6 Study Variables

In this study, the dependent and independent variables can be identified as follows:

Dependent Variable: Knowledge, attitudes, and practice of nurses regarding the use of physical restraints.

Independent Variable: Demographic variables (such as age, gender, years of experience, level of education, etc.).

1.7 Conceptual and Operational Definitions

Conceptual and operational definitions of the study variables are listed in Table (1.1).

Table (1.1): Conceptual and operational definitions of the study variables

Variable	Conceptual definition	Operational definition
Knowledge	The fact or condition of having information or of being learned (Merriam-webster, 2024a)	Level of knowledge regarding physical restraints was measured by using Physical Restraint Questionnaire. The knowledge section comprisesed 15 statements, to be answered by choosing correct or incorrect (Janelli et al., 1994)
Practice	To perform or work at repeatedly so as to become proficient (Merriam-webster, 2024b).	Practice regarding use of physical restraints was measured by using Physical Restraint Questionnaire. The practice section had 14 statements with three answer options (always, sometimes, and never) (Janelli et al., 1994).
Attitude	A feeling or emotion toward a fact or state (Merriam-webster, 2024c).	Attitudes regarding use physical restraints was measured by using Physical Restraint Questionnaire. The attitude section had 11 statements reflecting nurses' opinions of using physical restraint, with three answer options (agree, disagree and no opinion) (Janelli et al., 1994).

Chapter Two: Literature Review

2.1 Introduction

The aim of this chapter was to explore the extent, range, and nature of literature assessing the knowledge, attitudes, and practices of nurses regarding the use of physical restraints in the intensive care units. As well, to map existing research within an area of interest and to pinpoint any gaps in the literature in order to provide a sound of scientific rationale for conducting the current study.

2.2 Searching Strategy

A review of the literature was conducted to assess and evaluate the state of the science in the specific area of interest, particularly knowledge, attitudes, and practices of nurses regarding the use of physical restraints in the intensive care units. An electronic, computer-database search for the use of physical restraints and relevant resources was conducted utilizing the following key terms “the use of physical restraints”, “knowledge”, “attitudes”, “practices”, “intensive care units”, “critical care units”, “Palestine” and “nursing”. Boolean operators, wildcard and truncation symbols were used with key terms to expand or delimit a search. Different databases such as PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Science Direct, Scopus, Elton Bryson Stephens Sr. Company (EBSCO), Cochrane Library, and Google Scholar were searched.

The literature review focused on studies examining the knowledge, attitudes, and practices surrounding the use of physical restraints in intensive care units, specifically among nurses working in these settings. Peer-reviewed journal articles published in English were considered eligible for inclusion in the review. Articles such as editorials, short communications, letters, and those published before 2015 were excluded from the review, as were studies involving other healthcare professionals or inter-professional collaborations. The selected studies provided valuable insights into the perceptions and behaviors of ICU

nurses regarding the use of physical restraints, contributing to a comprehensive understanding of this practice within healthcare settings.

The literature review focused on studies from 2015 to 2024 to ensure the most recent and relevant research on nurses' knowledge, attitudes, and practices regarding physical restraints in ICUs. This period was chosen to reflect current practices and developments, excluding pre-2015 studies to avoid outdated information and provide a comprehensive understanding while identifying gaps in the literature.

2.3 Physical restraint

Physical restraints are using any method or equipment attached to the body of a person to limit his movement or restrict it (Fashafsheh et al.,2019); the most common equipment or devices are dressing and gauze, side rails, upper and lower limbs restraints, wrist restraints, or multi of them. (Kandeel & Attia, 2013). The Centers for Medicare and Medicaid Services a defines a physical restraint as “any manual method, physical or mechanical device, equipment, or material that meets all of the following criteria:

- Is attached or adjacent to the resident’s body;
- Cannot be removed easily by the resident; and
- Restricts the resident’s freedom of movement or normal access to his/her body.

Examples of physical restraints are side rails on beds, seat belts, tray tables, or lap cushions that prevent someone from getting up, and limb restraints like hand mitts or wrist ties. (Collins et al, 2009). Other types of restraints include soft ties, vests, and recliner or reclining wheelchairs that, when fully reclined, restrict a person’s ability to move freely. Additionally, floor mattresses or scoop mattresses that prevent a person from rising can also be considered restraints. Certain practices, such as positioning a bed against a wall to prevent someone from getting out, placing a person in a framed wheeled walker they cannot exit, using chair or bed alarms that create fear of movement, and tucking bed sheets tightly to restrict movement, may also function as restraints (Texas Administrative Code, 2021).

Physical restraints have often been used as an intervention to prevent falls, manage wandering and/or uncharacteristic behaviors, or to prevent tampering with medical devices such as feeding tubes or bladder catheters. However, research has shown that restraints do not prevent falls and that when falls occur while the person is restrained, are more likely to result in serious injury. In addition, physical restraint use can have negative physical impacts, including physical deconditioning, declines in mobility, incontinence, and pressure injuries. Use of physical restraints can also have psychological impacts such as frustration, increased behavioral disturbances, anger, and fear (Tolson & Morley, 2012).

In rare circumstances, the use of physical restraints may be warranted to address a particular medical condition. However, even when there is a valid medical reason, restraints should only be employed as a final measure.

2.4 Knowledge, attitudes, and practice regarding the use of physical restraints

A descriptive and cross-sectional study was conducted with 97 volunteer nurses in Sakarya, Turkey, who worked in general and coronary intensive care units (ICUs). The study aimed to determine the knowledge, attitudes, and practices of ICU nurses regarding the use of restraints. The results showed that demographic characteristics such as age, gender, years of experience, and education levels were not statistically significantly associated with restraint knowledge, attitudes, or practices. However, it was observed that more positive attitudes towards the use of restraints can be cultivated among staff, potentially leading to a higher standard of nursing practice. The findings revealed that nurses in the city center of Sakarya had a moderate level of knowledge about physical restraints, although they lacked sufficient information on certain forms, such as jacket restraints. While the nurses attempted to apply their knowledge in practice, their performance concerning legal and ethical issues needed improvement. Enhancing nurses' education on physical restraints could foster better attitudes and practices, ultimately improving patient care and safety in ICUs. The study concluded that enhancing nurses' education on physical restraints could foster more positive

attitudes and lead to higher standards of nursing practice. Therefore, it is recommended to provide comprehensive training programs, develop alternative strategies, implement standardized protocols, and conduct ongoing research to improve the ethical and effective use of physical restraints in ICUs (Kaya & Dogu, 2018).

In a cross-sectional study conducted by Kassew et al. (2020), to assess the knowledge, attitudes, practices, and influencing factors of nurses regarding physical restraint use in intensive care units were assessed in northwest Ethiopia. The study involved 260 nurses from Amhara regional state referral hospitals. The level of knowledge, attitudes, and practices of staff regarding physical restraints questionnaire was used to evaluate the nurses' knowledge and attitudes. Linear regression analysis was employed to identify factors influencing knowledge and attitudes. The mean scores for nurses' knowledge and attitudes regarding the use of physical restraints among critically ill patients were 7.81±1.89 and 33.75±6.50, respectively. It was found that lower academic qualifications and shorter work experience were associated with lower levels of knowledge. Conversely, reading about restraints from any source and receiving training on restraints were factors associated with higher knowledge levels. Additionally, nurses with diplomas and bachelor's degrees exhibited a more negative attitude toward restraints. Despite these findings, nurses with higher levels of knowledge and those who had received training regarding physical restraint use demonstrated more positive attitudes. The study concluded that developing and providing educational and in-service training to nurses about physical restraints is essential to enhance the quality of care for critically ill patients. These training programs would help improve nurses' knowledge and attitudes, thereby promoting better nursing practices in intensive care units (Kassew et al., 2020).

Thomann et al. (2022) conduct a cross-sectional study to examine the attitudes of 180 nursing staff members towards restraint use and evaluates the construct validity and reliability of the Maastricht Attitude Questionnaire (MAQ) within long-term care settings. Data were analyzed using descriptive statistics, regression analysis, and factor analysis. The findings indicate that nursing staff in hospitals generally maintain a neutral attitude towards the use of restraints. The study also found that the MAQ, with minor

adaptations, is a suitable tool for assessing attitudes in hospital settings, though further testing is recommended to ensure its effectiveness. Similar neutral attitudes among nursing staff have been observed in long-term and mental health care settings, where altering these attitudes has proven challenging. The study suggests that to address these neutral attitudes, interventions at both the national and management levels are necessary. National-level interventions could include the implementation of legal regulations, while management-level interventions might focus on providing alternatives to restraints and fostering a change in institutional culture. The importance of understanding nursing staff attitudes towards restraint use cannot be overstated. This study highlights the need for comprehensive interventions to facilitate attitudinal changes, thereby improving patient care and ensuring more ethical and effective use of restraints in healthcare settings. By addressing the attitudes of nursing staff through targeted educational and policy initiatives, it is possible to enhance the quality of care provided to patients in critical and long-term care environments (Thomann et al., 2022).

Büyük (2022) conducted a descriptive cross-sectional study recognizing the pivotal role of pediatric nurses in upholding patient rights and safety. The study aimed to assess the knowledge, attitudes, and practices regarding the use of physical restraints among 152 nurses employed in pediatric clinics at a university and a public hospital. Data collection utilized the levels of knowledge, attitudes and practices of staff regarding physical restraints questionnaire. The study revealed that all participating pediatric nurses utilized physical restraints, with wrist restraints being the most prevalent (95.4%), primarily employed to prevent harm to agitated children and others (93.4%). Notably, nurses' exposure to prior education on physical restraints and their unit assignment significantly influenced their knowledge, attitudes, and practices ($p<0.05$). In conclusion, these findings underscore the necessity for educational interventions and specialized counseling for pediatric nurses in Turkey regarding physical restraint practices, alongside the imperative for health organizations to establish pertinent protocols (Büyük, 2022).

Mahmoud Ahmed et al. (2019) conducted a study aiming to evaluate nurses' knowledge, attitudes, and practices regarding physical restraint for psychiatric patients.

The descriptive study took place at the psychiatric emergency departments of El-Abbassia Mental Health Hospital in Cairo, with a convenience sample of 100 nurses from these settings. The study utilized a structured questionnaire to assess nurses' characteristics, knowledge, and attitudes towards physical restraint, along with an observational checklist to evaluate their practice. Results indicated that nearly half of the nurses were aged between 20 to 30 years, predominantly female, with a significant portion graduated from technical nursing institutes and having less than 5 years of experience. Additionally, over two-fifths exhibited a satisfactory level of knowledge about physical restraint. However, a concerning finding revealed that two-thirds of nurses demonstrated an incompetent level of practice in physical restraint, and more than three-quarters held negative attitudes towards it. The study concluded that the majority of nurses displayed unsatisfactory levels of knowledge, negative attitudes, and inadequate practice regarding physical restraint. Recommendations included the implementation of training programs for nurses focused on physical restraint, along with continuous monitoring and on-the-spot teaching from nurse supervisors to ensure the quality of care provided to psychiatric patients undergoing physical restraint (Mahmoud Ahmed et al., 2019).

Mehrok et al. (2020) conducted a study aiming to evaluate nurses' knowledge and attitudes regarding the use of physical restraints in a tertiary care institute. Additionally, the study examined key factors influencing these aspects. A descriptive cross-sectional survey was conducted among 110 randomly selected nurses from various departments at a tertiary care center in Uttarakhand, India, in 2019. Data collection utilized self-reported questionnaires comprising demographic information, a knowledge assessment questionnaire, and an attitude rating scale regarding the use of restraints. The findings revealed that the mean knowledge and attitude scores of nurses regarding physical restraints were 13.9 ± 1.9 (out of 20 points) and 35.2 ± 4.7 (out of 55 points), respectively. Notably, the study found no significant relationship between nurses' knowledge and attitudes towards the use of physical restraints ($r = 0.084$). In conclusion, the study indicated that nurses' knowledge and attitudes regarding the use of restraints

were moderate. The authors recommended in-service training for nurses to enhance their knowledge and practices concerning the use of physical restraints (Mehrok et al., 2020).

Gheidari et al. (2019) conducted a cross-sectional study involving 193 nurses from twelve educational centers affiliated with Guilan University of Medical Sciences to assess nurses' knowledge, attitude, and performance regarding the application of physical restraints on patients in intensive care units, along with factors influencing these aspects. Data were collected using a comprehensive four-part tool encompassing demographic characteristics, knowledge assessment, attitude measurement, and performance evaluation related to physical restraint application. Results revealed that a significant majority of nurses (93.8%) utilized physical restraints, yet only a small proportion (17.4%) had received specific training in this area. The mean scores for nurses' knowledge, attitude, and performance regarding physical restraint were 11.04 ± 1.85, 36.49 ± 5.02, and 36.95 ± 3.55, respectively. Significantly, the study identified a positive correlation between attitude and performance scores ($P = 0.001$), indicating that an increase in attitude score corresponded to 1.12 times increase in performance score. Furthermore, the regression analysis demonstrated that an increase in attitude score was associated with 1.1 times increase in performance score ($P = 0.003$). In conclusion, the study highlighted the imperative for in-service training programs for nurses and the integration of pertinent subjects into the nursing curriculum to enhance patient safety and improve nurses' proficiency in managing physical restraint situations effectively (Gheidari et al., 2019).

Luk et al. (2015) conducted a prospective observational study to delve into the decision-making processes and practices of Canadian ICU nurses concerning the application and discontinuation of physical restraints, while also exploring alternative measures attempted prior to their utilization for critically ill adults. The study was conducted in two medical-surgical ICUs, a tertiary academic and a large community teaching hospital, to scrutinize the use of physical restraints. Analysis of data collected from the medical records of 141 patients between October 2011 and September 2012 unveiled that the majority of restrained patients were mechanically ventilated ($n = 118$, 84%). Primary reasons documented for restraint application among the patients included

agitation (n = 107, 43%), restlessness (n = 42, 17%), and precautionary measures (n = 42, 17%). Noteworthy, nurses meticulously identified and documented various behaviors indicative of agitation, with pulling at endotracheal tubes or other lines/tubes being the most frequently cited (n = 111, 66%). Additionally, nurses reported employing various alternative strategies prior to resorting to physical restraint for 46 (33%) patients, with communication interventions such as reorientation and reminders being the most common (n = 26, 27%). Furthermore, nurses considered removing restraints during their shifts for 61 (43%) patients, with the most common criterion for restraint removal being a calm patient (51 out of 104 reasons listed, 49%). In conclusion, the study underscores that patient agitation was the primary reason for physical restraint application. Moreover, the use of restraints as precautionary measures and in situations where nurses' presence at the bedside was limited, alongside the limited adoption of alternative measures, highlights potential areas for improvement in restraint minimization practices (Luk et al., 2015).

In a descriptive, observational study aimed at investigating the knowledge and practice of physical restraints among Jordanian intensive care unit (ICU) nurses, utilizing convenience sampling to recruit participants. The study assessed the knowledge of physical restraints in 301 nurses through a knowledge check and observed the real-time practice of physical restraints in 81 nurses through direct observation in the ICU. Data on knowledge about physical restraints use were collected using a knowledge questionnaire, while data on the practice of physical restraints were observed and documented using an observation checklist. The results revealed that the mean scores of nurses' knowledge and practices were 61.5 (SD = 12.1) and 57.4 (SD = 9.7), respectively. More than half of the nurses exhibited poor knowledge of physical restraints use and incorrect practice of implementing physical restraints (51.5% and 60.5%, respectively). Additionally, results indicated a positive correlation between nurses' knowledge and their utilization of physical restraints. In conclusion, the study highlighted physical restraints use as a challenging professional practice faced by nurses in their duties. The lack of knowledge regarding physical restraints use among nurses underscores the need for specialized education or training programs for nurses in ICUs in Jordan to enhance their knowledge, subsequently improving their practices

regarding physical restraints use. Moreover, there is a necessity for establishing clear policies or standard guidelines related to physical restraints use by hospital administrations and disseminating these policies or guidelines to nurses to ensure the provision of safe care. Implementing such changes could help prevent litigations and provide safety for nurses and families (Almomani et al., 2021).

A descriptive cross-sectional study was conducted to evaluate the level of knowledge and practice regarding physical restraints among nurses. A total enumerative sampling technique was employed to select 117 nurses from various departments including ICU, medical wards, psychiatric ward, and emergency unit of a Tertiary Care Hospital in Nepal. Following written consent from each participant, self-administered questionnaires on socio-demographic profile, knowledge, and practice about physical restraints were distributed. Results indicated that the majority of nurses (55.6%) fell within the age group of 18–25 years, with a significant portion (82.1%) having completed their Diploma Nursing, and 33.3% working in the ICU. Furthermore, a substantial proportion (74.4%) of participants reported previous exposure to physical restraints. In terms of knowledge about physical restraints, 52.1% of participants scored above the median range (Median [IQR] = 43 [54–30]). Regarding practice, 54.7% of nurses demonstrated adequate practice (mean = 80.1, SD 7.7). In conclusion, the study highlighted an interrelation between knowledge and practice of physical restraints. However, it was noted that nurses' knowledge scores were only average despite regular practice of physical restraints. Closing the knowledge gap could lead to more favorable outcomes. Additionally, senior staff members with higher positions or more experience could serve as role models for junior staff, providing guidance in both theoretical understanding and practical application of physical restraints. Hospital administrators are advised to plan in-service education programs for all nurses across various wards of tertiary care hospitals, ensuring an understanding not only of proper usage but also the negative consequences of physical restraints (Pradhan et al., 2019).

Fashafsheh et al. (2019) conducted a descriptive cross-sectional study to explore the perceptions and knowledge regarding physical restraint use among registered nurses (RNs) and nursing assistants (NAs). A convenient sample was recruited from nursing staff in Palestinian and Saudi hospitals, utilizing the Perceptions of Restraint Use Questionnaire

(PRUQ). The study included 144 nursing staff members, revealing varying perceptions of the importance of physical restraint use in different circumstances. In critical care units/ICUs, the most significant perceived reasons for physical restraint use were preventing falls from bed and maintaining dressing integrity. Significant differences were observed in the overall PRUQ scores among nursing staff based on hospital location, with Saudi Arabian hospitals scoring higher than Palestinian hospitals ($t(142) = 8.74$, $P = 0.001$). Furthermore, differences in overall PRUQ scores were found among nursing staff based on specialized education in geriatrics ($t(40) = 3.60$, $P = 0.001$), with those lacking specialized education scoring higher than their counterparts. The study concludes that nursing staff exhibited positive attitudes towards restraint application, with variations between Palestinian and Saudi Arabian nurses. However, proper implementation and awareness of complications are essential prerequisites for the application of physical restraints in patient care.

El-sol and Mohmmed (2018) conducted a descriptive cross-sectional study to assess nurses' knowledge, attitudes, and practices regarding physical restraints among critically ill patients. The study included 60 nurses working at Alshaab Teaching Hospital during the study period. Results indicated that the majority of the sample were female, held a bachelor's degree in nursing, had over 5 years of experience, and were aged between 21-30 years old. Additionally, most nurses had not attended a previous educational program on physical restraints. The findings revealed that the majority of nurses exhibited a fair level of knowledge, improper attitudes, and approximately 91.7% of them demonstrated satisfactory practices towards the application of physical restraints among critically ill patients. Regarding the correlation between sociodemographic characteristics and nurses' knowledge, attitudes, and practices, no significant correlation was found between nurses' age and knowledge, attitude, and practice. However, a statistically significant correlation was observed between nurses' gender and knowledge and practice only, as well as between nurses' qualification and practice only. Moreover, there was a statistically significant correlation between nurses' years of experience and attitude and practice scores. The study concluded that there was a fair level of knowledge, improper attitudes, and satisfactory practice of physical restraints among critically ill patients among the studied nurses. The study recommended the implementation of in-service training programs for nurses in all critical

care settings regarding physical restraints. Additionally, it suggested the development of evidence-based written guidelines or policies on physical restraints to be accessible to all nurses and physicians for adherence (El-sol & Mohmmed, 2018).

In a descriptive cross-sectional study conducted by Thomas (2021), the aim was to assess the knowledge, attitude, and practice towards the use of physical restraints among nurses working in acute in-patient care settings at a tertiary care center. Participants included registered nurses working in non-critical inpatient areas, with a total of 138 nurses eligible for the study. The final sample comprised 125 nurses, representing an 86% response rate, with the majority being female (88.8%). Most participants (70%) were aged between 31-40 years, and a higher number held a bachelor's degree in nursing. Additionally, 79% of participants held the position of Registered Nurse III, and 54.4% were shift in-charges of their units. The mean knowledge score was above average at 26.31 ± 2.60, indicating good knowledge about the use of restraints. Similarly, the mean attitude score was 30.57 ± 4.56, suggesting favorable attitudes towards the use of physical restraints among participants. Regarding practices related to the use of restraints, the mean score was 35.36 ± 2.17, indicating good practice among nurses. Interestingly, the median Knowledge Score Total was highest in males, although there was no significant difference between genders in terms of attitude and practice related to the use of physical restraints. However, a significant association was found between the three groups of nurses based on designation, with the median Knowledge Score Total being highest in the Registered Nurse II group. Overall, the study highlights a positive trend in knowledge, attitude, and practice among nurses regarding the use of physical restraints, with some variations based on gender and designation.

Elsatar and El-latief (2015) conducted a descriptive cross-sectional study to assess nurses' knowledge, attitude, and practice towards the safety of physical restraint use in intensive care units (ICUs). The study was conducted at Menofia University Hospital and Shebien El Koom Teaching Hospital, involving a convenience sample of all nurses in the selected ICUs, totaling 60 nurses from Menofia University Hospital and 35 nurses from Shebien El Koom Teaching Hospital. Additionally, 95 patients with physical restraints were included in the study. The results revealed that approximately two-thirds of the nurses had poor knowledge, while about one-third had moderate knowledge regarding physical restraint

use. Moreover, most nurses exhibited a negative attitude and moderate practice towards the use of physical restraints. Statistical analysis indicated a significant positive correlation between nurses' knowledge and attitude scores, as well as between attitude and practice scores. However, no significant positive correlation was found between nurses' knowledge and practice scores. Overall, the study concluded that there was inadequate knowledge and practice, as well as a negative attitude towards the use of physical restraints in ICUs. The authors recommended organizing training programs for nurses to enhance their knowledge regarding physical restraint application. Additionally, they suggested utilizing orientation programs for newly joined nurses to improve their practice and knowledge regarding restraint application (Elsatar & El-latief, 2015).

Suliman et al. (2017) conducted a descriptive cross-sectional study to investigate the knowledge, attitude, and practice of physical restraint among ICU nurses in Jordanian hospitals. A convenience sample of 400 nurses from three public hospitals and one university-affiliated hospital across various regions in Jordan was selected. Data were collected using an Arabic version of the Physical Restraint Questionnaire (PRQ). The study achieved a response rate of 75%, with 300 completed questionnaires. Among the respondents, 51% were male, 65.7% worked in public hospitals, and 80.3% held a bachelor's degree. The results showed that the mean knowledge score was 9.7 (SD = 1.7) out of 15, the mean attitude score was 24.7 (SD = 4.8) out of 33, and the mean practice score was 30.9 (SD = 3.5) out of 42. Nurses who had received previous education related to physical restraint scored higher in the knowledge section (mean = 10.7, SD = 1.4) compared to those who had not (mean = 9.1, SD = 1.6, $p < .001$). However, no significant differences were found between these groups in terms of attitude and practice. The study highlighted gaps in knowledge and unsafe practices regarding physical restraint in ICUs in Jordan. It suggested that improving nurses' knowledge, attitudes, and practices through in-service education, developing clear policies and guidelines, and ensuring adequate staffing and equipment are essential for maintaining patient safety and preventing complications. In conclusion, the study recommended conducting education programs on physical restraint for ICU nurses and implementing other preventive strategies to enhance their knowledge, attitudes, and practices related to physical restraint (Suliman et al., 2017).

Kısacık et al. (2020) conducted a cross-sectional, correlational study to determine the knowledge, attitudes, and practices regarding physical restraints among Turkish intensive care unit (ICU) nurses, and the factors influencing these aspects. The study included 191 nurses from state and university hospitals' ICUs. Participants provided information on their sociodemographic and professional characteristics and completed a questionnaire assessing their knowledge, attitudes, and practices regarding physical restraints. The results showed statistically significant differences in average knowledge scores based on the type of ICU, weekly working hours, work shift, and frequency of using physical restraints. Nurses working in surgical units, those with a 40-hour workweek, those working only during the day, and those using physical restraints daily had the highest knowledge scores. Attitude scores varied significantly by ICU type, with the highest scores among nurses in cardiology units. Practice scores differed significantly by education level and whether physical restraints were used without a physician's order, with the highest scores among nurses with undergraduate and postgraduate degrees and those who did not use restraints without a physician's order. In conclusion, the study revealed that participants had inadequate knowledge about physical restraints and engaged in some unsafe practices. The findings highlight the need for evidence-based guidelines and laws regarding physical restraints, along with regular training programs for ICU nurses to improve their knowledge and practices.

The article discusses the use of physical restraints in critical care settings, highlighting the reasons behind their usage, such as preserving equipment and therapy for patients. It emphasizes the importance of nurses' knowledge and practices regarding physical restraints in providing care for critically ill patients. The study evaluates nurses' knowledge and practices regarding physical restraints in critical care units, using a questionnaire developed by Janelli et al. (2006). Surveying 50 nurses, the study assessed their knowledge and practices related to physical restraints. The findings indicate that a high percentage of nurses had low knowledge about physical restraints (90%) and unsatisfactory performance in their practices (80%). Recommendations include the development of local policies for physical restraint use, specifying conditions where their use is mandatory (Hamid & Abbas, 2023).

A study conducted on 81 ICU nurses in Turkey's West Black Sea Region found that an in-service training program significantly improved their knowledge, attitudes, and

practices regarding PRs. The study used a questionnaire based on Suen's scale to evaluate nurses across three domains: knowledge about PRs, attitudes towards their application, and practices related to their implementation. Data was collected at three intervals: before the training, immediately after, and one- and three-months post-training. The results showed a significant initial improvement in nurses' attitudes and practices following the in-service training, but knowledge scores decreased after three months. This suggests that training can enhance practical application and positively influence attitudes, but its effect on knowledge retention may diminish over time. The study also revealed that Turkish nurses were more involved in the decision-making process for PRs and emphasized obtaining informed consent, reflecting an ethical commitment to patient care. However, the study's limitations, including its quasi-experimental design and short three-month evaluation period, suggest the need for further research. The findings advocate for regular in-service training to address knowledge gaps and promote ethical, effective use of PRs in intensive care settings (Yılmaz et al, 2023).

Nofal's study investigated the knowledge, attitudes, and practices of Jordanian ICU nurses regarding physical restraints (PRs) using a descriptive cross-sectional design and an online survey. The study, involving 128 nurses, found that the practice of PRs positively correlated with nurses' knowledge and attitudes. However, it revealed significant gaps in understanding and ethical considerations, with many nurses lacking awareness of alternative methods and often applying PRs without proper consent. Increased workloads due to COVID-19 and nurse shortages contributed to the frequent use of PRs. Despite some positive practices, such as trying alternatives and regularly checking restraints, many nurses disagreed with guidelines on PR usage and underestimated patients' rights to refuse PR. The study highlighted the need for improved education on the ethical and legal implications of PR use and suggested that local guidelines should be developed to standardize practices and enhance compliance with ethical standards. This underscores the importance of continuous education to address knowledge gaps and promote ethical patient care in ICUs (Subih & Nofal, 2022).

2.5 Summary

A comprehensive review of literature reveals significant variability in the knowledge, attitudes, and practices of ICU nurses regarding the use of physical restraints. Studies across diverse regions, including Turkey, Ethiopia, India, Iran, Canada, Jordan, Nepal, Palestine, Saudi Arabia, Sudan, and Egypt, indicate discrepancies in nurses' understanding and application of physical restraints.

In Turkey, research with ICU nurses shows that while demographic factors like age and experience don't significantly impact restraint knowledge, positive attitudes towards restraint use are associated with improved nursing standards. However, there are gaps in legal and ethical aspects, suggesting a need for enhanced education (Kaya & Dogu, 2018). Ethiopian studies indicate that lower qualifications and less experience correlate with lower knowledge levels, yet training and reading about restraints improve knowledge and attitudes, underscoring the need for continuous educational programs (Kassew et al., 2020).

Studies in long-term care settings, such as in Switzerland, reveal neutral attitudes among nursing staff, highlighting the necessity for national and management-level interventions to foster positive attitudes and ethical restraint use (Thomann et al., 2022). In pediatric settings in Turkey, prior education and unit assignments significantly influence the use of physical restraints, stressing the importance of educational interventions and protocol development (Büyük, 2022). Egyptian research at El-Abbassia Mental Health Hospital shows that while nurses have satisfactory knowledge, their practice levels are inadequate, necessitating training programs and continuous monitoring (Mahmoud Ahmed et al., 2019).

In India, nurses at a tertiary care center exhibit moderate knowledge and attitudes towards physical restraints, advocating for in-service training to improve practices (Mehrok et al., 2020). Similarly, Iranian studies reveal a strong correlation between positive attitudes and better performance, indicating the need for integrating restraint-related topics into nursing curricula and providing in-service training (Gheidari et al., 2019). Canadian ICU nurses focus primarily on patient agitation when deciding on restraints, with limited use of

alternatives, highlighting areas for improvement in restraint minimization practices (Luk et al., 2015).

Jordanian studies with ICU nurses show poor knowledge and practice regarding physical restraints, emphasizing the need for specialized training and clear guidelines to ensure safe practices (Almomani et al., 2021). Nepalese nurses display average knowledge levels despite regular restraint practice, pointing to the need for knowledge enhancement through educational programs and senior staff mentorship (Pradhan et al., 2019). Research in Palestine and Saudi Arabia reveals differences in perceptions and practices, highlighting the role of educational background in shaping attitudes towards restraints (Fashafsheh et al., 2019).

Further research in Sudan indicates fair knowledge but improper attitudes and satisfactory practice among ICU nurses, recommending in-service training and evidence-based guidelines (El-sol & Mohmmed, 2018). Another study in Jordan underscores the necessity of continuous education and policy implementation to bridge knowledge gaps and ensure patient safety (Suliman et al., 2017). Lastly, Turkish studies identify significant differences in knowledge and practice based on ICU type and work conditions, advocating for regular training and the establishment of guidelines to improve restraint practices (Kısacık et al., 2020).

National and international studies reveal significant discrepancies in the knowledge, attitudes, and practices regarding the use of physical restraints among ICU nurses. This inconsistency is evident across different regions and healthcare settings, indicating a gap in standardized understanding and implementation. The literature review identifies these gaps, with several studies highlighting moderate to poor knowledge levels, varied attitudes, and inconsistent practices concerning physical restraints. This variation underscores the necessity for comprehensive training programs, standardized protocols, and policy interventions to bridge these gaps. Addressing these discrepancies is crucial for ensuring ethical, effective, and safe use of physical restraints, ultimately enhancing the quality of patient care in ICU settings globally.

Chapter Three: Methodology

3.1 Introduction

This chapter outlines the methodology used to address the research questions. It discusses the study design rationale, recruitment process, sample size determination, and sampling procedures. Ethical considerations, data collection methods, and planned analysis are also covered. This chapter serves as a roadmap for understanding the systematic approach undertaken to conduct the research and generate meaningful findings.

3.2 Study Design

This study adopted a quantitative, descriptive cross-sectional design to evaluate nurses' knowledge, attitudes, and practices regarding physical restraint use in intensive care units within hospitals located in the northern region of the West Bank, Palestine. This research design was chosen as it does not involve manipulating the independent variable, and no interventions were administered to the participants (Creswell, 2003).

The decision to utilize a cross-sectional design originates from the absence of definitive findings regarding nurses' knowledge, attitudes, and practices concerning physical restraint use in Palestinian intensive care units. By employing this approach, the study seeks to establish baseline data regarding the level of knowledge, attitudes, and practices related to physical restraints in Palestine.

One notable advantage of cross-sectional studies is their efficiency and cost-effectiveness. This design involves gathering data from participants at a single time point or over a brief period, facilitating comparisons across variables of interest. Cross-sectional studies are often used as exploratory or descriptive tools to draw initial inferences about potential relationships or to gather preliminary data to support further research and experimentation.

3.3 Study Settings

The study conducted in nine hospitals in the northern area of West Bank: six governmental hospitals (Al-Wattani and Rafidia in Nablus, Dr. Thabet Thabet in Tulkarem, Dr. Khaleel Suliman in Jenin, Darwish Nazzal in Qalqilyah, and Turkish in Tubas), three private hospitals (Al-Israa Special in Tulkarm, Specialized Arab in Nablus, and Ibn Sina Specialized in Jenin), and one educational hospital (An-Najah National in Nablus).

3.4 Study Population and Sample

Population is defined as the entire set of individuals or objects having some common characteristics (Polit and Beck, 2017). For this study, the target population includes all nurses working in intensive care units in Palestine. Meanwhile, the accessible population includes all nurses working in intensive care units specifically situated in hospitals located within the northern region of the West Bank, Palestine

3.5 Sampling method

Sampling is the process of selecting a portion of the population to represent the entire population. Convenience sampling entails the most conveniently available people as study participants (Polit and Beck, 2017). In the current study, nurses who were working in intensive care units within hospitals located in the northern region of the West Bank, Palestine, were conveniently recruited if they met the predetermined inclusion criteria.

3.6 Sample Size Calculation

The sample size for this study was determined using Raosoft software, with a calculated requirement of 156 nurses based on a population of 260 nurses, a 95% confidence interval, and a 5% margin of error. To account for potential attrition, enrollment was

increased to 172 participants. Recruitment was conducted via convenience sampling to ensure a diverse representation across multiple hospitals.

3.7 Inclusion Criteria

Nurses who were recruited in the current study met the following inclusion criteria: (a) Currently employed in the intensive care unit of the selected hospitals in the northern region of the West Bank, (b) Having a minimum of six months' experience in the ICU to ensure sufficient patient care expertise, (C) Providing direct care for adult ICU patients, and (d) Willing to voluntarily participate in the study and provide informed consent.

3.8 Exclusion Criteria

Nurses were excluded from the study if they: (a) Were on temporary leave or temporary assignment away from the ICU during the data collection period, (b) Had less than six months of experience in the ICU, (c) Primarily provided care in pediatric or neonatal ICUs rather than adult ICUs, or (d) Declined to participate or were unable to provide informed consent. Additionally, volunteer nurses, nursing students, and nurses employed part-time were excluded.

3.9 Instrument

The study instruments consisted of two parts: firstly, the demographic questionnaire (Appendix 1) was a semi-structured questionnaire developed by the researcher based on relevant literature. It contains inquiries about socio-demographic variables including age of nurse, gender, nursing experience, education, type of hospital and ICU, job title, and any previous education about physical restraints. Secondly, the Physical Restraint Questionnaire (Janelli et al., 1991) (Appendix 1) was employed. Originally developed to assess gerontology nurses' knowledge, attitude, and practice regarding physical restraints in the United States, it

was subsequently adapted for broader use in acute care settings (Janelli et al., 1994). The questionnaire comprised three sections: knowledge, attitude, and practice. The knowledge section consisted of 15 statements, answered by indicating correct or in correct. The knowledge score was measured based on correct responses on the 15 statements that were scored as one point for each correct answer and summed to create total knowledge score, cumulative scores ranged from 0 to 15 points. For ease of understanding knowledge score was then converted to percentage to be ranged from 0% to 100%. The attitude section consisted of 11 statements reflecting nurses' opinions on the use of physical restraints. Responses were rated on a 4-point Likert scale ranging from 1= strongly disagree to 4= strongly agree. The total score ranged from 11 to 44, with higher scores indicating a more positive attitude toward the use of physical restraints. Conversely, lower scores, closer to 11, indicated a more negative attitude toward their use. The practice section consists of 14 statements that reflect nursing practices related to the use of physical restraints. In the practice section, respondents rated their practices using a 3-point Likert scale: "always" (3), "sometimes" (2), and "never" (1). A total score of 14 indicates the highest frequency of improper restraint use, while a score of 42 signifies the most appropriate and effective utilization of restraints.

3.10 Pilot Study

A pilot study serves as a crucial preliminary assessment, aiming to evaluate the clarity, completion time, and ease of administration of study instruments, including questionnaires and interventions. By conducting a pilot study, researchers can proactively identify and address potential challenges, thereby minimizing unexpected problems and allowing for necessary study redesigns. Additionally, pilot studies often yield valuable insights and innovative approaches that may not have been anticipated beforehand (Polit and Beck, 2017).

In this study, a pilot investigation was conducted with a sample of 17 nurses from intensive care units, representing approximately 10% of the total calculated sample size (Polit

and Beck, 2017). Pilot testing occurred prior to the commencement of actual data collection. Nurses participating in the pilot were asked to complete the Physical Restraint Questionnaire, and no issues regarding language comprehension, completion time, or ease of administration were reported. Notably, nurses involved in the pilot were excluded from the main study sample to prevent potential biases.

3.11 Ethical Consideration

Ethical approval and permissions were obtained from the Institutional Review Board (IRB) at Arab American University and the relevant hospitals (R-2024/A/18/N). Nurses were provided with a comprehensive understanding of the study's objectives, emphasizing voluntary participation. Data collection was conducted anonymously and stored securely on a password-protected computer. Nurses were explicitly informed of their autonomy to withdraw from the study at any stage. Nurses who consented to participate were requested to sign the informed consent form and complete the questionnaire.

3.12 Data Collection Procedure

After receiving approval from the Ethics Committee at Arab American University and securing permission to conduct the study from selected hospitals, an initial meeting was coordinated with the nursing managers of each participating hospital. The purpose of this meeting was to discuss data collection procedures and agree upon suitable dates for data collection, the data collection period was between February 2024 and May 2024.

Following the agreement on scheduled appointments, researchers attended regular meetings held for each ward. During these sessions, participants were provided with the questionnaires to complete, with the survey requiring approximately 15–20 minutes to finish. Prior to data collection, the study's objectives and procedures were thoroughly explained to the participants, and written informed consent was obtained to safeguard their rights.

To ensure the integrity of responses, separate printed consent forms were provided for participants to sign, and completed questionnaires were securely sealed in return envelopes for submission. All collected data were anonymized and coded, with participants assured that their data would be securely disposed of at the conclusion of the study. Additionally, participants were informed that the collected data would solely be utilized for research purposes and would not be utilized for any other intention.

3.13 Data Analysis:

The Statistical Package for Social Sciences (SPSS) version 26 was used to analyze the data. Descriptive statistics, such as frequencies, percentages, means, and standard deviations, were used for sample characteristics and statement scores. The inferential statistic the independent t-test and analysis of variance (ANOVA) were used to measure the difference in knowledge, attitude and practice mean scores based on nursing demographic characteristics. Pearson correlation analysis was employed to assess the relationships between knowledge, attitude, practice scores and demographic variables. Statistical significance was established at $p < 0.05$.

Chapter Four: Results

4.1 Introduction

This chapter presents information on the distribution of the data, instruments' reliability, and participants' demographic information, it provided a close analysis of the responses pertinent to each of the three goal areas. It has also been addressed how nurses' knowledge, attitudes, and practice surrounding physical restraints are influenced by demographic characteristics.

4.2 Assessment of data distribution and the reliability of the instruments

The means of knowledge, attitudes, and practices were not normally distributed, as indicated by the p-values of the Shapiro-Wilk and Kolmogorov-Smirnov tests; all of them were below the significant level of p= 0.05. The knowledge items revealed acceptable reliability with a Cronbach's Alpha of 0.62. The attitude items showed excellent reliability with an Alpha of 0.84, while the practice items showed very high reliability with an Alpha of 0.88.

4.3 Demographic characteristics of participants

There was a 100% response rate among the 180 ICU nurses who participated in this study. The participants' age ranged from 24 to 55 years old. Aged 24-31 represented the majority of nurses (65.0%). Males accounted for 64.4% of the participants, while females were 35.6%.Married participants made up the majority 68.3%. A 73% of the participants held a bachelor's degree. Nearly half of them worked in the Medical ICU. A 75.6% of the participants worked in units with three to seven beds. With 86.7% of the participants, registered nurses (RNs) made up the majority. Sixty-two percent of the participants had two

to eight years of experience. A 46.1% of nurses worked in governmental hospitals. For more details see table (4.1).

Table (4.1): Demographic Variables of ICU Nurses at Palestinian hospitals in north area of West Bank (n=180)

Demographic variables		Frequency	%
Age group	24 – 31	117	65.0
	32 – 39	52	28.9
	40 – 47	6	3.3
	48 – 55	5	2.8
Gender	Male	116	64.4
	Female	64	35.6
Marital Status	Single	55	30.6
	Married	123	68.3
	Divorced	1	0.6
	Widow	1	0.6
Education	Diploma	15	8.3
	Bachelor	132	73.3
	Master	33	18.3
Working Unit	Medical ICU	87	48.3
	Surgical ICU	36	20.0
	Coronary ICU	18	10.0
	Intermediate ICU	19	10.6
	General ICU	20	11.1
Numbers of beds	3 – 7	136	75.6
	8 – 12	42	23.3
	13 – 17	1	0.6
	18 – 22	1	0.6

Job title	Practical nurse	15	8.3
	Registered nurse	156	86.7
	Head nurse	9	5.0
Experience	2 – 8	113	62.8
	9 – 15	57	31.7
	16 – 22	8	4.4
	23 – 29	1	0.6
	30 – 36	1	0.6
Hospital	Governmental	83	46.1
	Private	70	38.9
	Educational	27	15.0

ICU: Intensive care unit; n: Frequency; %: Percentage

Table (4.2) presents the opinions of ICU nurses with PR. Just over half of nurses (55.6%) claimed that there was a process or policy in place for using physical restraints. 44.4% of nurses said informed consent was necessary, while 73.9% said a doctor's order was required. 64.4% had not received any training relating to documentation, despite 51.1% realizing its importance. 73.3% already knew the material, of which 21.1% had learned it during their study period and 26.7% through continuing education at their workplace.

Table (4.2): Participants' opinions about physical restraints

Variable	**No**		**Yes**	
	Frequency	**%**	**Frequency**	**%**
Policy/ Protocol	80	44.4	100	55.6
Informed consent	100	55.6	80	44.4
Physicians order	47	26.1	133	73.9
Documentation form	88	48.9	92	51.1
Training course	116	64.4	64	35.6

Background	48	26.7	132	73.3

Information source	Frequency	%
During study period	38	21.1
Training workshop	9	5.0
Continuing education at the hospital	48	26.7
Self-reading from a book or scientific research	35	19.4
Missing	50	27.8

4.4 Nurses' Perception Regarding Physical Restraints

As shown in table (4.3), the majority of participants (37.8%) said that physical restraints were "Very much" safe. 43.9 % of the respondents thought that the use of physical restraints was "Very much necessary." Physical restraints were rated "Extremely" useful by 33.9% of respondents. 36.7% of respondents said it was "Very much" acceptable to use physical restraints. Self-harm was the most common reason (67%), for physical restraints.

Table (4.3): Perceptions of Safety, Necessity, Usefulness, and Acceptability of Physical Restraints

	Extremely F (%)	**Very much** F (%)	**A lot** F (%)	**Neutral** F (%)	**Little** F (%)	**Very little** F (%)	**Not at all** F (%)	**Value**
The use of physical restraints is safe	64 (35.6)	**68 (37.8)**	31 (17.2)	4 (2.2)	7 (3.9)	2 (1.1)	4 (2.2)	Very much safe
The use of physical	45		40	3	6	3	4	

restraints is necessary	(25)	**79 (43.9)**	(22.2)	(1.7)	(3.3)	(1.7)	(2.2)	Very much necessary
The use of physical restraints is useful	**61 (33.9)**	57 (31.7)	43 (23.9)	10 (5.6)	5 (2.8)	3 (1.7)	1 (0.6)	Extremely Useful
The use of physical restraints is acceptable	43 (23.9)	**66 (36.7)**	44 (24.4)	12 (6.7)	7 (3.9)	5 (2.8)	3 (1.7)	Very much Acceptable

Regarding to indications of restraints, self-extubating (47%) and dangerous behaviors (43%) were the main indicators. Confusion (37%), agitation (33%), and attempting to remove catheters (31%), among other noteworthy indicators. Less prevalent indications, which ranged from 6% to 22%, included delirium, inability to communicate, fall risk, having a tracheostomy, sedation, and disrupting staff or others. For more details see table (4.4).

(Table 4.4): Participants` perception about indications for physical restraints

Indication	Frequency	%
Self-harm	120	67
Dangerous behavior	77	43
Trying to remove catheters	55	31
Agitation	59	33
Self-extubation	84	47
Inability to communicate	22	12
Fall risk	39	22
Confusion	66	37
Having a tracheostomy	15	8
Sedation	17	9
Delirium	13	7
Disturbing staff and/or others	22	12
Having an intravenous medication	11	6

4.5 Nurses' Knowledge Regarding the Use of Physical Restraints

This section attempted to answer the first research question: What is the level of knowledge among nurses regarding the use of physical restraints in ICUs within hospitals in the northern area of the West Bank?

The majority of ICU nurses (61.7%) showed a moderate level of knowledge regarding physical restraints, with a mean score of (25.66 ± 2.592). The percentage of nurses with strong knowledge (37.2%) was significantly higher than that of those with poor understanding (1.1%). Three statements had the highest percentage of correct responses among the 180 nurses who took the knowledge assessment on the usage of physical restraints. 95.6% of nurses identified the statement "A restraint is legal only if it is necessary to protect the patient or others from harm." correctly. Furthermore, it was found that 85.0% of participants accurately recognized the statement, "When a patient is restrained, skin can break

up or restlessness can increase". 82.8% of nurses correctly answered, demonstrating solid knowledge of the legal implications related with the incorrect use of restraints. "A nurse can be charged with assault if he/she applies restraints when they are not needed".

47.2% of participants accurately recognized that "Deaths have been linked to the use of vest restraints," suggesting a notable deficiency in understanding regarding the serious hazards connected to specific kinds of restraints. Furthermore, with respect to the statement "A patient should be restrained while lying flat in bed because of the danger of choking," 53.9% of participants gave the right answer, demonstrating a moderate degree of knowledge but still giving an opportunity for growth. The fact that only 53.9% of respondents correctly identified the statement, "When a patient is restrained in a bed, the restraint should not be attached to the side rails," further suggests that additional information is required regarding the correct techniques for attaching restraints in order to protect patient safety. More details in table (4.5) and (4.6).

Table (4.5): Level of knowledge of physical restraints among ICU nurses

Variables		Frequency	%	M (SD)	Value
Level of knowledge	15 - 20 Poor	2	1.1	25.66 (2.592)	Moderate
	21 - 26 Moderate	111	61.7		
	27 - 30 Good	67	37.2		

M : Mean; SD: Standard Deviation; ICU: Intensive Care Unit

Table (4.6): Items measuring knowledge on the use of physical restraints (N=180)

Item	True	
	N	%
1. A restraint is legal only if it is necessary to protect the patient or others from harm.	172	95.6
2. When a patient is restrained, skin can break up or restlessness can increase	153	85.0
3. A nurse can be charged with assault if he/she applies restraints when they are not needed	149	82.8
4. In an emergency, a nurse can legally restrain a patient without a physician order	146	81.1
5. Physical restraint requires a doctor order	143	79.4
6. A record should be kept on every shift of patients in restraints	139	77.2
7. Physical restraint is a vest or safety attire used to prevent injuries, ,	138	76.7
8. Physical restraint should be fitted and secured comfortably, so that there is no space between the restraint and patient's skin	129,	71.7
9. Patients have the right to refuse to be restrained	125	69.4
10. A restraint should be released every 2 h if the patient is awake	123	68.3
11. Good alternatives to restraints do not exist	118	65.6
12. Confusion or disorientation is the main reason for using a restraint	105	58.3
13. A patient should not be restrained while lying flat in bed because of the danger of choking, ,	97	53.9
14. When a patient is restrained in a bed, the restraint should not be attached to the side rails	97	53.9
15. Deaths have been linked to the use of vest restraints	85	47.2

4.6 Nurses' Attitudes Regarding the Use of Physical Restraints

This section attempted to answer the first research question: What are the attitudes of nurses towards the use of physical restraints in ICUs within hospitals in the north area of West Bank?

The majority of ICU nurses (80.6%) had a neutral attitude toward the use of physical restraints, with a mean score of (30.25 ± 5.297). A smaller minority (12.8%) showed a positive attitude, compared to 6.7% who showed negative attitude.

Three major statements had the highest levels of agreement when it came to attitudes toward the usage of physical restraints. "In general, I feel knowledgeable about caring for a restrained patient". 88.9% of participants agreed with this statement. 85% of participants concurred when they said, "I feel that it is more important to let the patients in restraints know that I care about them". 82.6% of participants agreed that "the hospital is legally responsible for using restraints to keep the patient safe".

On the other hand, the following claims showed the highest levels of disagreement. "I feel that the main reason restraints are used is that the hospital is short staffed" was disagreed by 55% of participants. A notable percentage of nurses (47.8%) did not believe that constraints naturally compromise patient dignity, as seen by their disagreement with the statement "A patient suffers a loss of dignity when placed in restraints". there was disagreement among participants (47.7%) on the statement "I feel that family members have the right to refuse the use of restraints". More details in table (4.7) and (4.8).

Table (4.7): Level of attitudes of physical restraints among ICU nurses

Variables		Frequency	%	M (SD)	Value
Level of attitude	11 - 22 Negative	12	6.7	30.25 (5.297)	Neutral
	23 - 34 Neutral	145	80.6		
	35 - 44 Positive	23	12.8		

M : Mean; SD: Standard Deviation; ICU: Intensive Care Unit

Table (4.8): Items measuring attitude toward the use of physical restraints (N=180)

Item	Agree + strongly agree		Disagree + strongly disagree	
	N	%	N	%
1. I feel that family members have the right to refuse the use of restraints	94	52.3	86	47.7
2. I feel that nurses have the right to refuse to place the patient in restraints	133	68.3	47	31.7
3. If I were the patient, I feel I have the right to refuse or resist when restraints are placed on me	132	73.4	48	26.6
4. I feel discomfort / guilt when placing a patient on restraint	107	59.5	73	40.5
5. I feel that the main reason restraints are used is that the hospital is short-staffed	81	45	99	55
6. I feel embarrassed when the family enters the room of a restrained patient and they have not been informed	133	68.3	47	31.7
7. The hospital is legally responsible for using restraints to keep the patient safe	149	82.6	31	17.4
8. It makes me feel bad if the patients get more upset after restraints are applied	142	78.9	38	21.1
9. I feel that it is more important to let the patients in restraints know that I care about them	153	85	27	15
10. A patient suffers a loss of dignity when placed in restraints	93	52.2	87	47.8
11. In general, I feel knowledgeable about caring for a restrained patient	160	88.9	20	11.1

N: Frequencies; %: Percentages

4.7 Nurses' practice regarding the Use of Physical Restraints

This section attempted to answer the first research question: What is the current level of nursing practice regarding the implementation of physical restraints in ICUs within hospitals in the north area of West Bank?

As shown in table (4.9), physical restraints were always utilized by 58.3% of ICU nurses, 1.7% never used them, and 40% sometimes used them. The average score was 36.80 ± 5.410, indicating a range of sometimes to always usage.

Table (4.9): Level of practice of physical restraints among ICU nurses

Variables		Frequency	%	M (SD)	Value
Level of practice	15 - 35 Never	3	1.7	36.80 (5.410)	Sometimes to always
	16 - 36 Sometimes	72	40.0		
	37 - 45 Always	105	58.3		

M : Mean; SD: Standard Deviation; ICU: Intensive Care Unit

The majority of nurses (64.4%) were committed to patient safety; they always checked for skin abrasions caused by restraints. Furthermore, 76% nurses always let family members know why there are restrained. Also 62.8% of nurses always respond quickly to calls from patients who are restrained. Remarkably, 38.9% of nurses maintain care standards even in the face of staffing shortages by never using extra restraints. Just 1.7% of nurses never try alternatives, while the majority favor less restraints techniques. Reevaluating restraints shows a proactive approach, even though only 5% of people never support removal when it is not necessary. 56.1% of nurses sometimes collaborate with patients, however their documentation methods differ; 49.4% only sometimes record specifics of restraints. Since

50% of nurses only infrequently evaluate and record the effects of restraints, there is a need for improved regular monitoring of these effects. More details in table (4.10).

Table (4.10): Items measuring practice on the use of physical restraints (N=180)

Item	Never	Sometimes	Always
	N (%)	N (%)	N (%)
I try alternative nursing measures before restraining the patient	3 (1.7)	94 (52.2)	83 (46.1)
I take the decision for restraining a patient with a physician	8 (4.4)	91 (45)	81 (50)
When I assess the patient and discover him/her not need to be restrained, I suggest to the doctor remove it.	9 (5)	68 (37.8)	103 (57.2)
I respond rapidly to the call from the restrained patient as soon as possible.	11 (6.1)	56 (31.1)	113 (62.8)
I check the restraints at least every 2 h to make ensure they are in the proper position.	11 (6.1)	68 (37.8)	101 (56.1)
I inspect the skin of the patient for abrasions or skin tears if I bathe a patient who is restrained.	6 (3.3)	58 (32.2)	116 (64.4)
I tell family members why the patient is being restrained	7 (3.9)	46 (25.6)	127 (70.6)
I explain to the patient why the restraint is being applied	8 (4.4)	59 (32.8)	113 (62.8)
I tell the patient when the restraint(s) will be removed	11 (6.1)	59 (32.8)	110 (61.1)
I inform the family members/visitors when the restraint will be removed.	8 (4.4)	75 (41.7)	97 (53.9)
More patients are restrained when we are short of staff than when we are fully staffed	70 (38.9)	70 (38.9)	40 (22.2)
In our unit, staff members work together to discover ways to control the behavior of patients other than by using physical restraints	10 (5.6)	101 (56.1)	69 (38.3)
I regularly assess if the restraint should be removed.	5 (2.8)	76 (42.2)	99 (55)
If physical restraints are applied, I record on the patient's file the type of restraint used, the causes for applying it, the time of application, and the needed nursing care.	12 (6.7)	89 (49.4)	79 (43.9)
I regularly assess and record the effect of physical restraint when applied to a patient.	14 (7.8)	90 (50)	76 (42.2)
N: Frequencies; %: Percentages			

4.8 Relationship between ICU Nurses' Knowledge, Attitudes, Practices, and Demographics

This section attempted to answer the first research question: Is there a relationship between ICU nurses' knowledge, attitudes, and practices regarding physical restraint use and demographic variables?

There were no a statistically significant differences in mean scores of knowledge and attitudes regarding gender (p- values = 0.138, 0.548 respectively). on the other hand, there were a statistically significant differences in mean scores of practice between them favoring male gender (p= 0.023). There were no a statistically significant differences in mean scores of knowledge, attitudes and practice based on age, experience, job title, marital status and educational level (p- values for all > 0.05) , in case of working unit, the p-values p < 0.001and 0.016 revealed a significant difference in knowledge and attitude mean scores. Nurses who worked in intermediate and general ICUs had the highest mean scores of knowledge, while coronary ICU had the lowest. Nurses who worked in general, medical and surgical ICUs had highest scores of attitude and intermediate had the lowest. In term of hospitals, there were a statistically significant differences in mean scores of knowledge (p-value = 0.007). Nurses who worked in private hospitals had higher knowledge followed by who were in governmental and educational. Table (4.11) and Figure (4.1) illustrate more details.

Table (4.11): Knowledge, attitudes and practice based on demographic characteristics

Variables	Knowledge		Attitudes		Practice	
	Z / Chi^2	P	Z / Chi^2	P	Z / Chi^2	P
Gender	-1.482	0.138	-0.600	0.548	-2.275	0.023
Age	1.143	0.767	4.083	0.253	6.638	0.084
Experiences	2.049	0.727	2.429	0.657	3.617	0.460
Marital status	3.639	0.303	4.737	0.192	1.225	0.747

Education Level	0.704	0.703	0.120	0.942	2.356	0.308
Job title	0.767	0.681	1.424	0.491	1.062	0.588
Working unit	26.12	0.000	12.22	0.016	2.36	0.670
Hospital	10.056	0.007	1.713	0.425	2.045	0.360

P values were based on Mann-Whitney Test and Kruskal Wallis Test

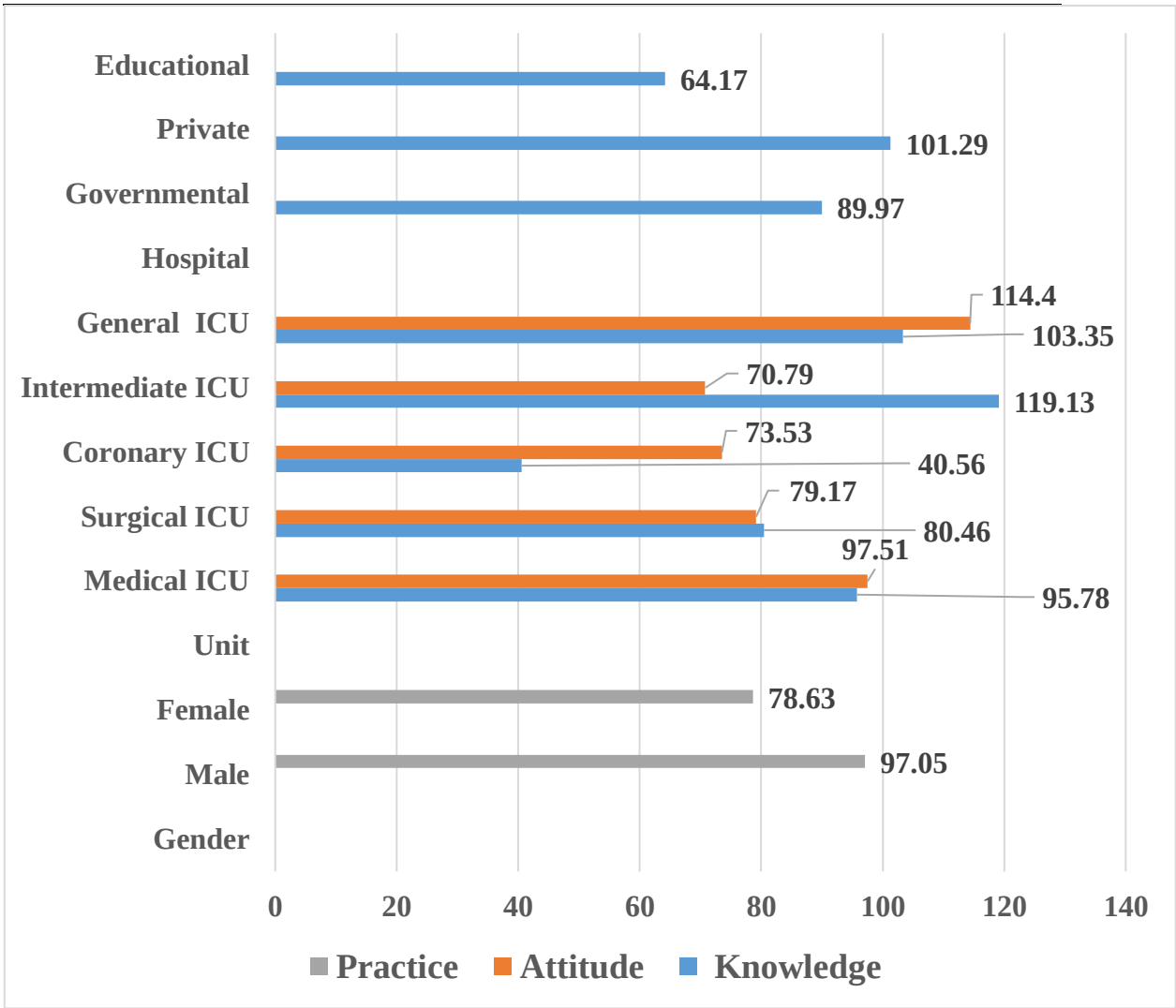

Figure (4.1). Means rank differences of knowledge, attitude and practice of physical restraint

4.9 Summary

Physical restraints were seen by the majority of nurses as safe, essential, and beneficial; the primary justification for their application was self-harm (67%). The majority of participants had moderate to high knowledge of physical constraints, yet there were gaps in their comprehension of some hazards and approaches. The majority of nurses had a neutral attitude on restraints, and their practices varied; 64.4% of nurses often checked for skin abrasions, whereas 58.3% of nurses always used restraints. Though male nurses and those working in private hospitals or specific ICUs demonstrated higher practice and knowledge scores, there were no discernible demographic variations in knowledge and attitudes.

Chapter Five: Discussion

5.1 Introduction

In this chapter, the research findings are explored and interpret with special attention on the knowledge, attitudes, and practices of ICU nurses in Palestinian hospitals regarding the use of physical restraints. Furthermore, this section connects these findings with existing research and discuss their implications for clinical practice, education, and policy. Additionally, this chapter also discuss the study's limitations and propose areas for future research to improve patient safety and care quality in ICU environments.

The aim of this study was to assess the knowledge, attitudes, and practices of nurses regarding the use of physical restraints in the intensive care units within hospitals in the north area of West Bank. The goal was to contribute foundational data for preventing inappropriate use of physical restraints and developing regulations and practical guidelines related to their use. The following implications can be drawn from the study results.

5.2 Demographic characteristic

Among the study participants, 64.4% of nurses reported never having taken a course on the subject indicating low implementation rate of education on this topic. In spite of this, 21.1% of the participants had prior information, which they obtained via the study, 5.0% from training sessions, 26.7% from the hospital's continuing education programs, and 19.4% from independent reading. Such result was consistent with Gheidari et al. (2019), which indicate significant majority of nurses (93.8%) utilized physical restraints, yet only a small proportion (17.4%) had received specific training in this area, highlighting the need for proper education on the application of physical restraints, this similarity highlights the urgent need for better training programs to ensure the safe and effective use of physical restraints.

However, the current study results showed that 55.6% of participants, there were protocols or policies in place, a doctor's order was necessary, this result are support previous

study (Yılmaz et al, 2023) which showed 69.7% of nurses indicated that the physician and the nurse together decided the use of PR in ICU. However, in another study (Almomani et al., 2021), showed that most PR applications were directed by nurses without physician's authorization, perhaps exposing them to legal risks.

The study showed that participants generally viewed physical restraints as safe, necessary, useful, and acceptable, the study results are consistent with previous studies that found nurses view physical restraints as a crucial and valuable nursing intervention in specific situation (Jihyun Kim,2024). Therefore, it can be interpreted that nurses believe that using physical restraints is critical to ensuring the patient's safety.

5.3 Nurses' Knowledge

The knowledge score of the study participants was moderate. The majority of ICU nurses (61.7%) had moderate knowledge of physical restraints, which is similar to the results of a study conducted on nursing who worked in general and coronary intensive care units (ICUs) using the same tool. (Kaya & Dogu, 2018). In contrast, Jordanian studies with ICU nurses showed poor knowledge and practice regarding physical restraints, emphasizing the need for specialized training and clear guidelines to ensure safe practices (Almomani et al., 2021).

The moderate overall knowledge level among participants can be partly explained by the fact that a significant majority—64.4%—had never attended a formal course on physical restraints. Although some individuals may have acquired knowledge through other means, the absence of structured education likely contributed to the observed moderate level of understanding. Proper knowledge is essential for determining where to apply constraints and when to employ them. Improving evidence-based understanding on restraint application is crucial for reducing the usage of physical restraints. To reduce the usage of physical restraints, educational programs should be developed based on prior studies demonstrating improved knowledge. (Kassew et al., 2020).

When examining the answer rates for the knowledge items, three significant statements had the highest percentage of correct responses among the 180 respondents who

took the knowledge assessment on the usage of physical restraints. the item ""A restraint is legal only if it is necessary to protect the patient or others from harm." correctly " had the highest correct answer rate of 95.6%, this finding is consistent with previous study, which highlights the crucial importance of safeguarding patients from injuries (Pradhan et al., 2019). With such a notable percentage of accurate answers, it is evident that a majority of ICU nurses possess knowledge regarding the ethical and legal challenges linked to the application of physical restraints. Furthermore, when examining the answer rate, the item "When a patient is restrained, skin can break up or restlessness can increase. The research discovered that 85.0% of the participants accurately recognized the statement, demonstrating a heightened level of consciousness concerning the potential adverse effects of restraints on general well-being and health. These results were consistent with a previous investigation conducted by (Thomas et al.,2019), which revealed that a majority of nurses (75.2%) concurred that the imposition of restraints on patients could lead to a rise in skin breakdown.

Conversely, only 47.2% of participants correctly identified that vest restraints have been linked to deaths, although this result inconsistent with Pradhan et al. (2019) which found that approximately 97% nurses responded that cases of death after physical restraint is uncommon, but indicating a significant lack of knowledge about the substantial risks associated with certain restraints. On the other hand, the item "A patient should never be restrained while lying flat in bed because of the danger of choking" 53.9% of participants got the correct answer, particularly, the correct answer rate for this item differs significantly from the findings of Kim and Yang (2024), indicating a modest level of knowledge but also providing opportunities for advancement.

The item "When a patient is restrained in a bed, the restraint should not be attached to the side rails." had a correct answer rate of 53.9% which was higher than the 48.9% correct answer rate in the study by Kim and Yang (2024), but significantly lower than the 90%correct answer rate reported in another study by Kaya & Dogu (2018), this suggests that the use of restraints, particularly bedrails, is prevalent in the northern region of the West Bank, Palestine. However, this common practice occurs despite the absence of explicit guidelines or recommendations. This highlights a need for further education and improvement in nurses' knowledge regarding the appropriate use of restraints. However, the frequent use of restrains

in patient care suggests the need to improve the level of awareness of physical restrains usage. As a result, it's important to offer various types of training in clinical settings to help nurses gain a better understanding of how to use physical restraints appropriately. Providing this targeted education will ensure that nurses are well-informed about the best practices and guidelines for using restraints, which can improve patient care and safety.

The study and research by Fashafsheh et al.(2019) reveal a significant gap between nurses' legal knowledge of physical restraints and their practical application. While 61.7% of nurses had moderate knowledge, many were unaware of the dangers of certain restraints, such as vest restraints, which only 47.2% recognized as potentially fatal. Nurses perceived restraints as important but often lacked awareness of associated complications like muscle loss or strangulation. Additionally, many nurses lacked formal training in the proper use and documentation of restraints. 64.4% of nurses in the study had never received specific training on documentation, while Fashafsheh et al. found that nurses without specialized education rated restraint use as more important due to a lack of awareness about alternatives and risks.

5.4 Nurses' attitudes

The attitude towards restraints use was neutral, (80.6%), with a mean score of (30.25 ± 5.297). A smaller minority (12.8%) showed positive attitude, compared to 6.7% who showed poor attitude.

When it came to opinions regarding the application of physical restraints, three key statements showed the highest levels of agreement. First, "In general, I feel knowledgeable about caring for a restrained patient". 88.9% of participants agreed with this statement. This strong degree of agreement suggests that the majority of nurses have faith in their expertise and capacity to treat patients under restraint. Second, 85% of participants concurred when they said, "I feel that it is more important to let the patients in restraints know that I care about them." This strong agreement demonstrates the nurses' commitment to making sure that patients, even in the face of restraints, feel supported and cared for. Thirdly, 82.6% of participants said that "the hospital is legally responsible for using restraints to keep the patient safe." This finding is consistent with the results of another study (Jihyun Kim, 2024), which

also identified that the same statement received the highest scores from participants, both studies suggest healthcare providers and administrators must understand their legal responsibility to use restraints, guide policy-making, and ensure staff are well-trained in safe use, balancing legal obligations with patient autonomy and dignity.

On the other hand, the following claims showed the greatest amounts of disagreement. First, the statement "I feel that the main reason restraints are used is that the hospital is short staffed" was disagreed by 55% of participants these findings are similar to the findings of the Kaya et al. (2018).

Second, a significant number of nurses do not believe that constraints naturally compromise patient dignity, as seen by their disagreement with the statement "A patient suffers a loss of dignity when placed in restraints," which received 47.8% of responses. Lastly, there was disagreement among participants (47.7%) on the statement "I feel that family members have the right to refuse the use of restraints," while over 80% of nurses in the research agreed that patients' rights should be well-understood and positively viewed, almost 50% of nurses disagreed that "family members have the right to refuse the use of physical restraints." The results aligned with previous research carried out on intensive care unit nurses (Thomas et al., 2019).

Continuous interventions addressing various topics such as patient, family, and healthcare professionals' rights, ethical conflicts, and regulations related to restraint use are essential to foster appropriate attitudes in nursing practice. Nurses can develop meaningful attitudes towards restraints through an ethical process that involves careful consideration of their appropriateness as a therapeutic tool, ultimately requiring ethical education to reduce ethical dilemmas in real clinical settings and enable efficient and patient-centered restraint nursing interventions.

5.5 Nurses' practice

The study found that most nurses had a good level of practice in using PR, with over 58.3% showing strong clinical skills in applying restraints. Only 1.7% of the nurses had poor

practices, while nearly 40% were at a moderate level. These results are similar to those from a study in Nepal (Pradhan et al., 2019).

When examining the application of physical restraints in nursing practice, the "Explaining the reasons for applying restraints to family members" received the highest score, this result indicates that a significant majority of nurses prioritize communication with family members aligning with a previous study that found similar results related to this question, in this section 88.7% of the patients gave the answer "always" to the question "I tell family members why the resident is being restrained" (Kaya & Dogu, 2018). which highlights the importance of transparency and communication in maintaining trust and ensuring ethical use of restraints.

This high score suggests that nurses are attentive to the concerns of family members and are committed to providing clear explanations, which is crucial for addressing any potential anxieties or misunderstandings. Effective communication about the use of restraints helps to build trust and ensures that family members are informed about the care being provided, reflecting a high standard of practice in this aspect of patient care.

In contrast, the level of nurses' performance observed in the present study appears to be lower compared to that reported in previous research conducted in (El-sol & Mohmmed, 2018). This discrepancy could be attributed to the fact that participants in those studies had access to ongoing in-service training and were operating within hospital settings that had established guidelines on the use of restraints. Conversely, in our current context, the study found that 55.6% of participants have policies and protocols in place regarding the use of physical restraints. This suggests that a majority of the nursing staff is guided by established guidelines. However, only 21% of participants reported that they have attended a lecture on continuous education related to restraints at their hospital. This discrepancy highlights a significant gap in ongoing professional development.

While having policies is an important step, it is not enough on its own to ensure proper practice. Regular training and education are crucial to effectively implement these guidelines and adapt to best practices. The lack of sufficient training could contribute to variations in how restraints are applied and might affect the quality of patient care. Addressing this gap

by enhancing training opportunities could help align practices with established protocols and improve overall clinical outcomes.

The study highlights that ICU nurses in the northern West Bank generally prioritize patient safety and ethical considerations when using physical restraints The preference for less restrictive methods is evident, with most nurses attempting alternatives before resorting to restraints. Notably, 40% of nursing professionals indicated infrequent utilization, signifying a diverse methodology regarding physical restraint implementation. Moreover, nursing professionals diligently participate in activities including the systematic assessment of skin abrasion, communicating pertinent information to family members, and responding promptly to patient needs, thereby demonstrating a robust dedication to patient-centered care. This proactive communication aligns with best practices in patient-centered care.

Most nurses also regularly reevaluate the necessity of restraints and advocate for their removal when deemed unnecessary, emphasizing the importance of minimizing physical restraint use. The study's reliability consistent with established guidelines in the literature (Thomas et al.,2019), which emphasize the importance of these actions in mitigating the potential harms associated with restraint use, showing nurses in the region are well-informed and adhere to recommended guidelines for restraint use. These results imply that although most nurses in the area are knowledgeable about the use of restraints and follow ethical standards, which the literature suggests are critical for ensuring accountability and continuous improvement in restraint practices (Almomani et al., 2021) ,more needs to be done to ensure consistency in documentation and continuous assessment of restraint techniques in order to bring them closer to best practices. In addition to protecting patients' rights, this strategy reduces the risks connected with physical restraint and promotes improved results overall.

This study reveals a significant disparity in documentation practices among nurses regarding physical restraints. 49.4% of nurses occasionally record details about restraints, while 50% monitor their effects on patients this aligned with study result of (Kassew et al., 2020). This highlights the need for improved documentation. However, a related study by Thomas et al. (2019), found that nurses did not record restraint information on charts, suggesting higher compliance. These findings were inconsistent with earlier study by

Almomani et al. (2021), that indicate Most nurses did not document their interventions. This discrepancy suggests differences in documentation practices across settings or the need for consistent adherence. Standardizing documentation practices is crucial for compliance, patient safety, and care quality.

The study shows that 38.9% of nurses avoid using additional restraints when staffing is inadequate, indicating a commitment to maintaining patient care standards. This aligns with a related study (Gheidari et al., 2019) that found that the use of restraints does not increase with lower staffing levels. Both research studies highlight the significance of sufficient staffing levels in ensuring high-quality patient care, as well as the necessity for nurses to follow best practices consistently, even when faced with difficult circumstances.

A significant difference in adherence to physical restraint protocols was observed, with male nurses showing higher levels of implementation compared to their female counterparts, which supported by previous study (El-sol & Mohmmed, 2018), but no significant differences were detected in knowledge or attitudes based on gender. his suggests that while knowledge and attitudes towards physical restraints are comparable, there are notable differences in practice, with male nurses possibly demonstrating more adherence to or implementation of restraint protocols. However, this contrasts with a related study (Gheidari et al., 2019), which did not report on the specific differences in practice by gender. This difference suggests that, although people might have similar levels of general knowledge, how they apply this knowledge and follow protocols can vary widely.

The present investigation, in conjunction with prior research (Gheidari et al., 2019) conducted, exhibits congruence in their conclusions concerning the influence of educational attainment on individuals' attitudes and practices; however, the aforementioned study did not reveal statistically significant disparities in knowledge, attitudes, and practices as a function of educational level, with p-values exceeding 0.05 across all assessments. Similarly, the related study observed that the mean score of knowledge was not significantly associated with educational level, although the mean score of attitude has a significant relation with the level of education ($P = 0.01$) but the performance has no significant relationship with the level of education. However, contrasting findings from other studies (Almomani et al., 2021; Kassew et al., 2020) highlight the importance of educational background in relation to nurses'

knowledge and practices. This indicates that while education can shape attitudes, it does not always lead to consistent improvements in practical skills or overall knowledge.

In this study, knowledge and practice levels are not correlated with the number of years of experience in ICU and their age. In contrast, (Almomani et al., 2021; Subih & Nofal, 2022) found a significant relationship between nurses' practice and both their ICU experience and age. The differing results highlight the need for a deeper exploration of how demographic factors like experience and age influence restraint practices, necessitating standardized training for all nurses and targeted programs for specific demographic groups.

In case of working unit, the study found significant differences in knowledge and attitude among ICU nurses, with the lowest scores in coronary ICU and the highest in general, medical, and surgical ICUs. The study results are consistent with Subih and Nofa1's (2022) findings on Jordanian ICU nurses' KAP towards PR, which noted significant differences in KAP levels and the impact of different ICU settings.

5.6 Limitation

This study has some limitation, the primary limitation of this study was the reliance on self-reported questionnaires to assess participants' knowledge, attitudes and practices of PR. The cross-sectional design of the study makes it more difficult to determine causality. Since the data were gathered all at once, it's possible that they don't reflect changes over time or the direction of the relationships between the variables. Also, the use of a convenience sample in this study may limit the generalizability of its findings.

The study evaluates nurses' knowledge, attitudes, and practices regarding physical restraints in critical care settings, contributing to the literature. It can help nursing administrators create standardized protocols for non-critical care patients and assess various practices, attitudes, and knowledge of nurses in both critical and non-critical care settings.

5.7 Strength of The Study

The study is well-designed, it includes data from nine hospitals in the northern West Bank, covering a mix of governmental, private, and educational facilities, which helps make the results applicable across different healthcare settings. By gathering information from various ICU wards in these hospitals, the study offers a thorough view of the factors affecting the use of physical restraints and sheds light on the differences across different environments. This study is groundbreaking as it is the first to be conducted in the northern area of the West Bank, Palestine, focusing on the knowledge, attitudes, and practices regarding physical restraint use among ICU nurses. The geographical focus on the northern West Bank provides valuable insights specific to this region, which has not been previously explored in similar research. This pioneering approach providing unique insights and a baseline for future studies and interventions in the region's unique healthcare context.

5.8 Conclusion

This study provides important insights into the knowledge, attitudes, and practices of ICU nurses regarding the use of physical restraints in Palestinian hospitals, particularly in the northern West Bank. The findings reveal notable knowledge gaps, emphasizing the need for enhanced education and training on alternative interventions, documentation, and ethical considerations. Nurses generally exhibit uncertain or negative attitudes toward restraints, affecting their decision-making, which suggests that targeted interventions could promote more positive, ethically informed perspectives. The application of physical restraints varies based on personal values, clinical experience, and environmental factors, highlighting the urgency of implementing standardized protocols to ensure safety and consistency. Demographic factors such as gender, also influence nurses' views, and tailored educational programs could address these variations. The study’s results are critical for informing policies and protocols that improve patient care, reduce risks, and uphold ethical standards. Additionally, ongoing research is needed to explore alternative strategies for patient safety that reduce dependence on physical restraints. Addressing these knowledge gaps, improving

attitudes, standardizing practices, and considering demographic influences are essential for enhancing the quality of care in ICUs and safeguarding patient well-being in Palestinian hospitals.

5.9 Recommendations

According to the study, it is recommended that:

1-A research investigation can be carried out in a longitudinal -experimental manner through the use of a time series design, which involves gathering data at various time intervals.
2- Future research is recommended to replicate this study among nurses working in various hospital settings beyond critical care units.
3- Conduct studies evaluating the effectiveness of targeted educational interventions designed to enhance knowledge in specific areas of interest.
4- Conduct in-service education and workshops focused on the use of physical restraints to enhance staff understanding, ensure proper application, and promote best practices in their usage
5- Develop and implement standardized protocols for the use of physical restraints in Intensive Care Units (ICUs) to ensure consistent and effective practices across different settings.
6- Educate families about the necessity and safety benefits of physical restraints in the ICU, while encouraging their involvement in decision-making. Transparent communication and psychological support are crucial to alleviate their concerns and build trust.
7- Regularly assess family attitudes toward restraints and use the feedback to enhance educational efforts. Additionally, inform families about non-physical alternatives, such as calming techniques, to minimize the use of restraints when possible.
8- Encouraging Research on Gender Dynamics in ICU Nursing: Further research could explore why male nurses show better practical application of restraints. Understanding these underlying factors will help develop targeted interventions to improve practice scores for both genders.

9- Provide targeted training for female nurses to improve their practical skills in applying physical restraints, focusing on techniques, safety protocols, and documentation, to address the gender disparity in nursing practice identified in the study.

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Appendices

Appendix (1) Research Tool

السلام عليكم ورحمة الله،

أتقدم انا الباحث **خالد يوسف صعبي** في كلية الدراسات العليا من الجامعة العربية الامريكية بفائق التقدير والاحترام، راجيا حسن تعاونكم في دعم مشروع رسالتي لتحقيق درجة الماجستير في برنامج تمريض العناية المكثفة الذي يعتبر جزءًا أساسيًا من رحلتي الأكاديمية بعنوان :

"المعرفة والمواقف والممارسات فيما يتعلق باستخدام القيود الجسدية بين ممرضين العناية المكثفة في المستشفيات الفلسطينية في منطقة شمال الضفة الغربية."

"Knowledge, attitudes, and practice regarding the use of physical restraints among ICU nurses at Palestinian hospitals in north area of West Bank."

املا منكم المشاركة الفاعلة وتوفير البيانات اللازمة لإتمام هذا البحث، الذي يحمل قيمة كبيرة للقطاع الصحي في فلسطين. كما اؤكد لكم على سرية تامة لكافة البيانات التي قد احصل عليها، وضمان استخدامها فقط لأغراض البحث العلمي المقصودة.

يرجى العلم بأن المشاركة في هذا البحث اختيارية، وأنه يمكن لأي شخص سحب مشاركته في أي وقت دون ذكر أسباب. انا ممتن لتعاونكم، وأقدر تفهمكم ودعمكم في إكمال هذا المشروع بنجاح، سيستغرق الاستبيان التالي حوالي 15-20 دقيقة فقط. إنني أقدر حقًا وقتكم الثمين في مساعدتي لإكمال هذا البحث.

تم شرح وتفسير طبيعة الدراسة وهدفها عن طريق الباحث: خالد يوسف "محمد علي" صعبي، لقد تم إخباري عن طبيعة البحث من حيث المنهجية والآثار السلبية المحتملة والمضاعفات (حسب ورقة معلومات المشارك).
بعد معرفة وفهم جميع المزايا والعيوب المحتملة لهذا البحث، أوافق طواعية بمحض إرادتي على المشاركة في البحث السريري المحدد أعلاه.
أفهم أنه يمكنني الانسحاب من هذا البحث في أي وقت دون إبداء أي سبب على الإطلاق.
التاريخ: .....

إمضاء المشارك.....
شاكرا لكم حسن تعاونكم وتفهمكم

لمزيد من المعلومات او للإجابة عن استفساراتك يرجى التواصل مع مشرف البحث
عن طريق الإيميل:
bahaa.hammad@aaup.edu

القسم الأول: استبانة المعلومات الشخصية

1. العمر بالسنوات: _____
2. الجنس: ☐ ذكر ☐ أنثى
3. الحالة الاجتماعية: ☐ أعزب ☐ متزوج ☐ مطلق ☐ أرمل
4. المؤهل العلمي: ☐ دبلوم ☐ بكالوريوس ☐ ماجستير
5. القسم الذي تعمل فيه: ☐ Medical ICU ☐ Surgical ICU ☐ Coronary ICU
   ☐ Intermediate ICU ☐ غير ذلك، اذكرها: .....
6. عدد الاسرة في القسم الذي تعمل فيه: _____
7. المسمى الوظيفي: ☐ ممرض مساعد (**Practical**) ☐ ممرض قانوني (**RN**) ☐ رئيس قسم (**Head nurse**)
8. الخبرة العملية_____
9. نوع المستشفى الذي تعمل فيه: ☐ حكومي ☐ خاص ☐ تعليمي
10. هل يوجد في القسم الذي تعمل فيه سياسة /بروتوكول للتقييد الجسدي للمريض: ☐ نعم ☐ لا
11. هل يوجد في القسم الذي تعمل فيه نموذج موافقة مسبقة (**Informed consent**) للتقييد الجسدي للمريض: ☐ نعم ☐ لا
12. هل يكون التقييد الجسدي للمريض بناء على امر من الطبيب: ☐ نعم ☐ لا
13. هل يوجد في القسم الذي تعمل فيه نموذج لتوثيق (Documentation form) التقييد الجسدي للمريض: ☐ نعم ☐ لا
14. هل تم عمل دورة تدريبية عن التقييد الجسدي للمريض في المستشفى الذي تعمل فيه: ☐ نعم ☐ لا
15. هل قرات او سمعت عن التقييد الجسدي للمريض (**Physical restraint**): ☐ نعم ☐ لا
16. إذا كانت الإجابة بنعم، يرجى تحديد المصدر:
    ☐ اثناء الدراسة ☐ ورشة تدريبة ☐ التعليم المستمر في المستشفى ☐ قراءة ذاتية من كتاب او بحث علمي
17. يرجى التحديد أي من الحالات التالية التي تستخدم فيها التقييد الجسدي (**Physical restraint**) للمريض:
    ☐ Self-harm ☐ Dangerous behavior ☐ Trying to remove catheters
    ☐ Agitation ☐ Self-extubating ☐ Inability to communicate
    ☐ Fall risk ☐ Confusion ☐ Having a tracheostomy
    ☐ Sedation ☐ Delirium ☐ Disturbing staff and/or others
    ☐ Having an intravenous medication ☐ Self-extubation after physical restraint
18. In my opinion, the use of physical restraints among ICU patients is...
    من وجه نظري، استخدام التقييد الجسدي بين مرضى وحدة العناية الحثيثة يعتبر

	جدا	الى حد ما	قليلا	لا آمن) ولا غير (آمن	قليلا	الى حد ما	جدا	
غير آمن	1	2	3	4	5	6	7	1. آمن
غير ضروري	1	2	3	4	5	6	7	2. ضروري
ضار/مؤذي	1	2	3	4	5	6	7	3. مفيد
غير مقبول	1	2	3	4	5	6	7	4. مقبول

القسم الثاني: معرفة الممرضين/ الممرضات فيما يتعلق بالتقييد الجسدي

Part Two: Nurses knowledge regarding physical restraint use:

	العناصر	صح	خطأ
1	Physical restraint is a vest or safety attire used to prevent injuries. التقييد الجسدي هو عبارة عن سترة او ملابس امان او احزمة تستخدم لمنع الاصابات		
2	A restraint is legal only if it is necessary to protect the patient or others from harm. التقييد الجسدي قانوني فقط إذا كان ضروريا لحماية المريض أو الآخرين من الضرر/الاذى		
3	Patients have the right to refuse to be restrained.للمرضى الحق في رفض التقييد الجسدي		
4	Physical restraint requires a doctor's order.يتطلب التقيد الجسدي امر الطبيب		
5	Confusion or disorientation is the main reason for using a restraint التشوش الذهني او التوهان هو السبب الرئيسي لاستخدام التقييد الجسدي		
6	A restraint should be released every 2 h if the patient is awake يجب أن يتم إزالة التقييد الجسدي كل ساعتين إذا كان المريض مستيقظًا		
7	Physical restraint should be fitted and secured comfortably, so that there is no space between the restraint and patient's skin. يجب أن يكون التقييد الجسدي ملائما ومثبتا بشكل مريح، بحيث لا يوجد فراغ بين جلد المريض واداة التقيد الجسدي		
8	A patient should never be restrained while lying flat in bed because of the danger of لا ينبغي أبدًا تقييد المريض جسديا اثناء الاستلقاء على السرير بسبب خطر الاختناق.choking		
9	When a patient is restrained, skin can break up or restlessness can increase عندما يتم تقييد المريض جسديا، يمكن أن يحدث تشقق في الجلد أو زيادة في الاضطراب/القلق		
10	When a patient is restrained in a bed, the restraint should not be attached to the side عندما يكون المريض مقيدا في السرير، لا ينبغي تثبيت القيود بالقضبان الجانبية للسرير.rails		
11	A record should be kept on every shift of patients in restraints يجب المحافظة على توثيق التقييد الجسدي في سجل المريض في كل ورديّة للمرضى المقيدين		
12	A nurse can be charged with assault if he/she applies restraints when they are not needed يمكن توجيه تهمة الاعتداء ضد الممرض/ة إذا قام/ت بتقييد المريض جسديا عندما لا تكون هناك .حاجة لذلك		
13	In an emergency, a nurse can legally restrain a patient without a physician's order في الحالات الطارئة، يعتبر تقييد المريض جسديا من قبل الممرض قانونيا بدون امر الطبيب		
14	Good alternatives to restraints do not exist. لا توجد بدائل جيدة للتقييد الجسدي		
15	Deaths have been linked to the use of vest restraints. هناك ارتباط بين حالات الوفاة واستخدام سترات التقييد الجسدي		

القسم الثالث: توجهات التمريض من استخدام التقييد الجسدي

Part Three: Nurses attitudes regarding physical restraint use:

	العناصر	موافق وبشدة	موافق	غير موافق	غير موافق وبشدة
1.	I feel that family members have the right to refuse the use of restraints. اشعر ان افراد الاسرة لديهم الحق في رفض استخدام التقييد الجسدي				
2	I feel that nurses have the right to refuse to place the patient in restraints اشعر ان الممرضين لديهم الحق في رفض التقييد الجسدي للمريض				
3.	If I were the patient, I feel I have the right to refuse or resist when restraints are placed on me. إذا كنت المريض، اشعر بان لدي الحق في ان ارفض او اقاوم وضع القيود عليّ				
4.	I feel discomfort/guilt when placing a patient on restraint. اشعر بالذنب وعدم الراحة عند تقييد المريض جسديا				
5.	I feel that the main reason restraints are used is that the hospital is short-staffed. اشعر بان السبب الرئيسي لاستخدام التقييد الجسدي هو نقص الكادر في المستشفى				
6.	I feel embarrassed when the family enters the room of a restrained patient and they have not been informed. اشعر بالحرج عندما تدخل العائلة الى غرفة المريض وتجده مقيدا ولم يتم ابلاغهم				
7	The hospital is legally responsible for using restraints to keep the patient safe المستشفى مسؤول قانونيا عن استخدام التقييد الجسدي للحفاظ على سلامة المريض				
8.	It makes me feel bad if the patients get more upset after restraints are applied. ينتابني الشعور بالسوء إذا أصبح المرضى أكثر انزعاجا بعد استخدام التقييد الجسدي				
9	I feel that it is more important to let the patients in restraints know that I care about them اشعر انه من الأهمية ان يعرف المرضى الذين يتم تقيدهم انني اهتم بهم				
10	A patient suffers a loss of dignity when placed in restraints. يعاني المريض من فقدان الكرامة عندما يتم وضع القيود				
11	In general, I feel knowledgeable about caring for a restrained patient. بشكل عام، اشعر بأنني على دراية ومعرفة برعاية المريض المقيد				

القسم الرابع: ممارسات التمريض فيما يتعلق بالتقييد الجسدي

Part Four: Nurses practice regarding physical restraint use:

	العناصر	مطلقا	احيانا	دائما
1.	I try alternative nursing measures before restraining the patient أحاول إيجاد اجراءات تمريضية بديلة قبل تقييد المريض			
2.	I take the decision for restraining a patient with a physician. أتخذ قرار تقييد المريض بالتشاور مع الطبيب			
3.	When I assess the patient and discover him/her not need to be restrained, I suggest to the doctor remove it. عندما أقوم بتقييم المريض/ة واكتشف بانه لا يحتاج الى التقييد الجسدي، اقترح على الطبيب ازالته			
4.	I respond rapidly to the call from the restrained patient as soon as possible. استجيب بسرعة لنداء المريض المقيد في أسرع وقت ممكن			
5.	I check the restraints at least every 2 h to make ensure they are in the proper position. أقوم بفحص القيود كل ساعتين على الأقل للتأكد من انها في الموضع الصحيح			
6.	I inspect the skin of the patient for abrasions or skin tears if I bathe a patient who is restrained. أقوم بفحص جلد المريض بحثًا عن خدوش او تشققات جلدية إذا قمت بغُسل مريض مقيد			
7.	I tell family members why the patient is being restrained أخبر افراد العائلة عن سبب تقييد المريض			
8	I explain to the patient why the restraint is being applied اشرح للمريض سبب وضع القيود الجسدية عليه			
9.	I tell the patient when the restraint(s) will be removed أخبر المريض متى سيتم إزالة التقييد الجسدي			
10	I inform the family members/visitors when the restraint will be removed. أخبر افراد العائلة / الزائرين بموعد إزالة التقييد الجسدي			
11	More patients are restrained when we are short of staff than when we are fully staffed يتم تقييد العديد من المرضى عندما يكون هناك نقص في الممرضين مقارنة مع وجود الطاقم بشكل كامل			
12	In our unit, staff members work together to discover ways to control the behavior of patients other than by using physical restraints في وحدتنا، يعمل افراد التمريض معًا لاكتشاف طرق للتحكم في سلوك المرضى بدون اللجوء إلى التقييد الجسدي			
13	I regularly assess if the restraint should be removed. أقوم بتقييم دوري لمعرفة ما إذا كان يجب إزالة التقييد			
14.	If physical restraints are applied, I record on the patient's file the type of restraint used, the causes for applying it, the time of application, and the needed nursing care. إذا تم تطبيق التقييد الجسدي، أسجل في ملف المريض نوع التقييد المستخدم، وأسباب تطبيقه، ووقت التطبيق، والرعاية التمريضية اللازمة			
15	I regularly assess and record the effect of physical restraint when applied to a patient. أقوم بتقييم وتسجيل تأثير التقييد الجسدي عند تطبيقه على المريض بانتظام			

Appendix (2) IRP Approval

Arab American University
Institutional Review Board - Ramallah

الجامعة العربية الأمريكية
مجلس اخلاقيات البحث العلمي – رام الله

IRB Approval Letter

Study Title: "Knowledge, Attitudes, and Practice Regarding the Use of Physical Restraints among ICU Nurses at Palestinian Hospitals in North Area of West Bank"

Submitted by: Khaled Yousef "Mohammad Ali" Sa'bi

Date received: 6th January 2024

Date reviewed: 1st February 2024

Date approved: 1st February 2024

Your Study titled **"Knowledge, Attitudes, and Practice Regarding the Use of Physical Restraints among ICU Nurses at Palestinian Hospitals in North Area of West Bank"** with the code number **"R-2024/A/18/N"** was reviewed by the Arab American University Institutional Review Board - Ramallah and it was approved on the 1st of February 2024.

Sajed Ghawadra, PhD
IRB-R Chairman
Arab American University of Palestine

الجامعة العربية الأمريكية - فلسطين
مجلس اخلاقيات البحث العلمي - رام الله
IRB-R
ARAB AMERICAN UNIVERSITY-PALESTINE
INSTITUTIONAL REVIEW BOARD - RAMALLAH

General Conditions:

1. Valid for 6 months from the date of approval.
2. It is important to inform the IRB-R with any modification of the approved study protocol.
3. The Bord appreciates a copy of the research when accomplished.

Appendix (3) Hospital Approval "Non-GOV"

Arab American University
Faculty of Graduate Studies
الجامعة العربية الأمريكية
كلية الدراسات العليا

2024/2/10

الى من يهمه الأمر

تسهيل مهمة بحثية

تحية طيبة وبعد،

تُهديكم كلية الدراسات العُليا في الجامعة العربية الأمريكية أطيب التحيات، وبالإشارة الى الموضوع أعلاه، تشهد كلية الدراسات العُليا في الجامعة أن الطالب **خالد يوسف محمد علي صعبي** والذي يحمل الرقم الجامعي 202212115 هو طالب ماجستير في برنامج تمريض العناية المكثفة ويعمل على رسالة الماجستير الخاصة به بعنوان:

" المعرفة والمواقف والممارسات فيما يتعلق باستخدام القيود الجسدية بين ممرضين العناية المكثفة في المستشفيات الفلسطينية في منطقة شمال الضفة الغربية"، تحت إشراف الدكتور بهاء الدين حماد. نأمل من حضرتكم الإيعاز لمن يلزم لمساعدته للحصول على المعلومات اللازمة للدراسة، علماً أن المعلومات ستستخدم لغاية البحث فقط وسيتم التعامل معها بغاية السرية، وقد أُعطي هذه الرسالة بناءً على طلبه.

وتفضلوا بقبول فائق الاحترام

عميد كلية الدراسات العليا

د. نوار قطب

كلية الدراسات العليا
FACULTY OF GRADUATE STUDIES

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Appendix (4) Hospital Approval “GOV”

State of Palestine
Ministry of Health
Education in Health and Scientific Research Unit

دولة فلسطين
وزارة الصحة
وحدة التعليم الصحي
والبحث العلمي

Ref.: ………………
Date:………………

الرقم: ٢٠٢٤/٥٦٠٨٢٣٢
التاريخ: ٢٠٢٥/٢/٢١

عطوفة الوكيل المساعد لشؤون المستشفيات والطوارئ المحترم،،،

تحية واحترام...

الموضـــوع: تسهيل مهمة بحث

يرجى تسهيل مهمة الطالب:**خالد يوسف محمد علي صبعي-برنامج تمريض العناية المكثفة –** الجامعة العربية الامريكية، بعنوان:

" المعرفة والمواقف والممارسات فيما يتعلق باستخدام القيود الجسدية بين ممرضين العناية المكثفة في المستشفيات الفلسطينية في منطقة شمال الضفة الغربية"

حيث سيقوم الطالب بجمع معلومات عن حول موضوع البحث من خلال تعبئة استبانة من قبل الممرضين، وذلك في:

- **المستشفى الوطني– مستشفى رفيديا– مستشفى ثابت ثابت – مستشفى الشهيد خليل سليمان مستشفى الدكتور درويش نزال – مستشفى طوباس التركي**

مع العلم ان مشرف الدراسة: د.بهاء الدين حماد .
على ان يتم الالتزام بالمحافظة على اخلاقيات البحث العلمي وسرية المعلومات، وعدم التعرض للمعلومات التعريفية للمشاركين.
على ان يتم تزويد الوزارة بنسخة PDF من نتائج البحث، التعهد بعدم النشر لحين الحصول على موافقة وزارة الصحة.

مع الاحترام...

د. عبد الله القواسمي
رئيس وحدة التعليم الصحي والبحث العلمي

نسخة: عميد كلية الدراسات العليا المحترم/ الجامعة العربية الامريكية

Telfax.:09-2333901 scientificresearch.dep@gmail.com تلفاكس: 09-2333901

Appendix (5) Participants Consent form

INFORMED CONSENT

AAUP-IRB Code No.: "R-2024/A/18/N"…….
AAUP-IRB Date: …1/2/2024…….
I, ……..... *(Name of Participant / optional)* hereby agree to take part in the clinical research (clinical study/questionnaire study/drug trial) specified below:

Title of Study: .. **Knowledge, attitudes, and practice regarding the use of physical restraints among ICU nurses at Palestinian hospitals in north area of west bank**
……
……
……,
Fulfillment of …MSN…….…...…… degree, in …Intensive Care Nursing…..…., in AAUP.
(Name of program)

The nature and purpose of which has been explained to me by Khaled Yousef 'Mohammed Ali" Sa'bi……., and interpreted by Khaled Yousef 'Mohammed Ali" Sa'bi … to the best of his/her ability in English.
I have been told about the nature of the research in terms of methodology, possible adverse effects and complications (as per Participant Information Sheet).
After knowing and understanding all the possible advantages and disadvantages of this research, I voluntarily consent of my own free will to participate in the clinical research specified above.
I understand that I can withdraw from this research at any time without assigning any reason whatsoever.

Date: ……...……..….. **Signature:** ……
(Participant)

IN THE PRESENCE OF:

Name: Khaled Yousef 'Mohammed Ali" Sa'bi …

Designation: Khaled Yousef 'Mohammed Ali" Sa'bi.… **Signature:** Khaled Yousef 'Mohammed Ali" Sa'bi ……..……

(*Witness for Signature of Participant)*

I confirm that I have explained to the patient the nature and purpose of the above-mentioned research.

Date: ……. **Signature:** ……

(Attending investigator)

المعرفة والمواقف والممارسات فيما يتعلق باستخدام القيود الجسدية بين ممرضين العناية المكثفة في المستشفيات الفلسطينية في منطقة شمال الضفة الغربية

خالد يوسف "محمد علي" صعبي

د. بهاء حماد

د. بسمة سلامة

د. عماد ثلثين

ملخص

الخلفية: في بيئة العناية المركزة، يُعد استخدام القيود الجسدية ممارسة شائعة تهدف إلى ضمان سلامة المرضى وعلى الرغم من الدور الوقائي الذي تهدف إليه هذه القيود، إلا أن استخدامها قد يؤدي إلى مضاعفات سريرية ونفسية متنوعة. وتشير الأبحاث إلى أن ممرضي العناية المركزة غالبًا ما يفتقرون إلى المعرفة الشاملة حول الاستخدام المناسب للقيود، والبدائل الممكنة، وأهمية التوثيق الصحيح.

الهدف: هدفت الدراسة إلى تقييم معرفة الممرضين ومواقفهم وممارساتهم فيما يتعلق باستخدام القيود الجسدية في وحدات العناية المركزة في المستشفيات الواقعة في شمال الضفة الغربية.

مجتمع الدراسة والعينة: يشمل مجتمع الدراسة جميع ممرضو وحدات العناية المركزة في فلسطين، مجتمع الدراسة المستهدف هم ممرضو وحدة العناية المركزة في المستشفيات في منطقة شمال الضفة الغربية على منطقة شمال الضفة الغربية. تم اختيار 180 ممرضة بناءً على معايير محددة مسبقا.

الطرق: تم جمع البيانات بين فبراير 2024 ومايو 2024 باستخدام استبانة ذاتية حول الإدراك، والمواقف، والمعرفة، والممارسات التمريضية في تطبيق القيود الجسدية. أجريت الدراسة في تسع مستشفيات في شمال الضفة الغربية، بما في ذلك ست مستشفيات حكومية وثلاثة مستشفيات خاصة ومستشفى تعليمي واحد.

النتائج: شارك في الدراسة 180 ممرضًا، 61.7% لديهم معرفة متوسطة بالقيود الجسدية و80.6% أظهروا مواقف محايدة تجاه استخدامها. ومن الجدير بالذكر أن 58.3% من الممرضين طبقوا باستمرار

الممارسات الصحيحة للقيود الجسدية. أظهر الممرضون الذكور والعاملون في المستشفيات الخاصة أو وحدات العناية المركزة المحددة درجات أعلى بكثير في المعرفة والممارسة.

الخلاصة والتوصيات: يواجه ممرضو وحدات العناية المركزة نقصًا في المعرفة ومواقف وممارسات متعلقة بالقيود الجسدية. تتأثر هذه الثغرات بعوامل ديموغرافية مثل العمر والجنس والمستوى التعليمي. ويمكن لتحسين هذه الجوانب وتعزيز البروتوكولات الموحدة أن يسهم في تحسين رعاية المرضى وسلامتهم. وتؤكد الدراسة على الحاجة إلى التعلم المستمر والبحث لضمان الالتزام بالمعايير الأخلاقية وتحسين جودة الرعاية. وأوصت الدراسة بضرورة التعلم المستمر والبحث لضمان المعايير الأخلاقية وتحسين جودة الرعاية لممرضي وحدة العناية المركزة. توصي الدراسة بإجراء بحوث طولية وتكرارها وتقييمها لتوسيع نطاق الفهم. ينبغي أن تركز الدراسات المستقبلية على التدخلات التعليمية، والتدريب أثناء الخدمة، والبروتوكولات الموحدة، ومشاركة الأسرة، والبدائل غير المادية، مع التدريب الموجه للممرضات لمعالجة الفوارق بين الجنسين.

الكلمات المفتاحية: القيود الجسدية، الممرضين، المعرفة، المواقف، الممارسة.