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The Effect of Quality and Safety Education based program on Junior Nurses' Knowledge, Skills, and Attitudes at the Palestinian Ministry of Health

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Thesis Approval

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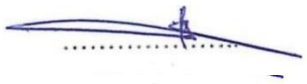
3. Prof. Mohammed Asia: Internal Examinar	
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Declaration

The work provided in this dissertation, unless otherwise referenced, is the researcher own work and has not been submitted elsewhere for any other degree or qualification.

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Dedication

I dedicate this message to my dear son Wadih, who has passed away.

May God have mercy on you and make you dwell in His spacious gardens. Your young years were full of life, hope, and ambition, and your passing was a great shock to us all. But in every corner of my life, your memory remains alive and bright like the sun in the morning. Your memory gives me the strength to move forward, God willing.

I will also never forget dedicating this message to my son, Dr. Wafa Shehadeh, his wife, Dr. Shorouq, and my beautiful grandson, Jad. This journey would not have been successful without your support and inspiration. You were and still are my source of inspiration and strength, and I will never forget your wise guidance and constant encouragement. Whenever I feel tired or hopeless, you are my source of inspiration, strength, and giving.

You’re Loving Mother

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Abstract

Background: Nursing education plays a pivotal role in shaping competent and patient-centered healthcare professionals. Integrating quality and safety education for nurses (QSEN) principles into nursing curricula is essential for preparing nurses to deliver high-quality care in hospital settings. The quality and safety education for nurses (QSEN) competency program represents a valuable initiative in nursing practice and education, equipping nurses with the essential knowledge, skills, and attitudes (KSAs) required to deliver safe, efficient, and patient center care by focusing on its six core competencies.

Purpose: This study aims to determine the impact of quality and safety education for nurses (QSEN) competency on the knowledge, skills, and attitudes (KSAs) of junior nurses in the Palestinian Ministry of health. To improve patient safety (PS) outcomes and the capabilities of junior nurses, the study intends to offer useful information to a variety of stakeholders in Palestine, including policymakers, healthcare organizations, and nursing education programs. It also emphasizes how crucial it is for healthcare systems around the world to prioritize patient safety (PS) and high-quality care.

Method: This study has the quantitative portion of this study used a quasi-experimental pre-test and post-test design with two groups: an intervention group and a control group. Implementation of data collection for two groups from two governmental hospital (Palestinian medical complex & Rafidia) started on 25/01/2024 and completed on 10/02/2024.Sample size is 164 nurse, Quantitative questionnaires to evaluate nurses' mastery of the knowledge, skills, and attitudes (KSAs) instrument identified patient-centered care competencies. Nurses' patient-centered care abilities are improved through the use of instructional tools and interventions.

Results: The findings indicate that nurses in Palestine can benefit from targeted interventions and quality and safety education for nurses (QSEN) educational programs aimed at improving their patient-centered care competence, as post-test scores show a significant rise over pre-test scores. Junior nurses who participated in the quality and safety education for nurses (QSEN) program experienced a 57% increase in knowledge, a 57% increase in skills, and a 64% increase in attitudes.

Conclusion: The present study emphasizes the need for additional investigation into interventions and pedagogical approaches that may enhance nurses' patient-centered care competencies in hospital environments. Healthcare organizations can improve overall healthcare outcomes and increase patient-centered care delivery by integrating quality and safety education for nurses (QSEN)principles into nursing education and practice in hospitals and improve overall healthcare outcomes.

These findings highlight the positive effects of quality and safety education for nurses (QSEN) programs on nursing education and practice in Palestine.

Keywords: Quality and Safety Education for Nurses (QSEN), Knowledge, Skills, Attitude, Patient-centered care, Teamwork and Collaboration, Evidence-based practice, Quality improvement, Safety and Informatics.

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List of Abbreviations

Quality and Safety Education for Nurses	QSEN
Theory of Planned Behavior	TPB
Ministry of Health	MOH
Evidence-Based Practice	EBP
Quality Improvement	QI
Patient-Centered Care	PCC
Patient safety	PS
World Health Organization	WHO
Institute of Medicine	IOM
Knowledge, Skills, and Attitudes	KSAs
American Association of Colleges of Nursing	AACN
Knowledge, Skills, and Attitudes Instrument	KSAI
Palestine Medical Complex	PMC
Intensive Care Unit	ICU
The institutional review board	IRB
Clinical Performance Evaluation Questionnaire	CPEQ
University of California, San Francisco	UCSF
Patient-centred Care Scale	PCCS
Situation, Background, Assessment Recommendation	SBAR
postpartum haemorrhage	PPH
Plan-Do-Check-Act	PDCA
Surgical Safety Checklist	SSC

Electronic health records	EHRs
Nursing information systems	NIS
Safety Attitudes Questionnaire-Short Form	SAQ

Chapter One

Introduction

To protect patients from injury and guarantee their well-being, patient safety (PS) is a crucial component of healthcare delivery. It includes a range of actions for PS to lessen hazards related to healthcare and encourage a safety-conscious culture. PS has received considerable attention and recognition in recent years on a global scale, underscoring the need for efficient tactics and instruction to raise the standard and safety of healthcare systems (World Health Organization [WHO], 2021).

Nurses hold a pivotal role in upholding PS within the healthcare sector. Serving as frontline healthcare professionals, nurses are tasked with providing care, careful patient monitoring, error identification and prevention, and advocacy for the well-being of those under their care (WHO, 2021). Globally, PS remains a paramount concern across all healthcare systems, with the overarching goal of delivering safe and error-free care being a fundamental aspiration (WHO, 2021). Essential to this endeavor is the recognition that nurses, as leaders within the healthcare team, bear primary responsibility for safeguarding PS (WHO, 2021). Underpinning the healthcare system is the commitment to shield patients from harm, prevent adverse events, and actively reduce risks associated with healthcare practices, thereby maintaining PS at levels deemed acceptable (Ismail & Khalid, 2022).

PS is a paramount concern within the healthcare domain, with a huge estimate of approximately 43 million safety incidents occurring on an annual basis (WHO, 2019). This multifaceted concept encompasses a range of measures aimed at minimizing risks inherent in healthcare delivery, fostering a robust culture of safety, and ensuring

the well-being of patients by shielding them from harm (WHO, 2021). In recent years, the importance of PS has gained global recognition, underscoring the critical necessity for the implementation of effective strategies and educational initiatives aimed at elevating the standards of healthcare systems and enhancing overall safety (WHO, 2021). This escalating awareness underscores the imperative for ongoing efforts dedicated to enhancing healthcare quality and safety on a global scale.

Concurrently, the significance of high-quality nursing education cannot be overstated. QSEN competency programs play a pivotal role in equipping nurses with the essential competencies necessary to provide care that is not only safe and effective but also Patient-Centered Care (PCC). These programs enhance nurses' ability to deliver care that prioritizes patients' individual needs and preferences, contributing to improved patient outcomes and overall healthcare quality (Smith, 2020).

Nurses, according to the WHO, are familiar in the concepts of PS and equipped to identify potential hazards, mitigate their severity, prevent adverse outcomes, and contribute to positive patient results (Sherwood & Zomorodi, 2021). The integration of QSEN competency into nursing curricula serves as a catalyst for fostering a culture of safety within healthcare institutions. It places a significant emphasis on nurturing teamwork and collaboration among healthcare professionals while instilling a sense of shared responsibility for PS, ultimately ensuring the delivery of safe and high-quality care. Furthermore, QSEN competency programs provide nurses with opportunities to actively engage in Quality Improvement (QI) initiatives, Evidence Based Practice (EBP), and the utilization of informatics, all aimed at enhancing PS and healthcare outcomes (Sherwood & Zomorodi, 2021).

1.1 Background

PS is of vital importance in the healthcare sector. Protecting their patients is a fundamental ethical and professional duty of healthcare workers (WHO, 2021). It consists of a wide range of techniques intended to reduce risks associated with medical care and advance a safety culture inside healthcare institutions. Recent years have seen a significant increase in global awareness of the importance of education and effective policies to raise the standard and safety of healthcare systems (WHO, 2021).

Nurses, as per the WHO, possess in-depth knowledge of PS concepts, enabling them to adeptly identify potential hazards, mitigate their impact, prevent adverse patient outcomes, and actively contribute to positive results (Sherwood & Zomorodi, 2021). The integration of the QSEN competency framework into nursing education programs plays a pivotal role in cultivating a robust culture of safety within healthcare institutions. QSEN competency places a strong emphasis on fostering teamwork and collaboration among healthcare professionals, instilling a collective sense of responsibility for PS, and thereby ensuring the consistent delivery of safe and high-quality patient care. Additionally, QSEN competency -based initiatives empower nurses to engage proactively in QI endeavors, embrace EBP, and use the potential of informatics—all pivotal components aimed at elevating PS and overall healthcare outcomes (Sherwood & Zomorodi, 2021).

Nurses form an essential component of the healthcare team, playing a pivotal role in safeguarding PS. Their frequent patient interactions and execution of treatment plans position them at the forefront of patient care. Consequently, their attitudes, skills, and knowledge wield a direct impact on patient outcomes and safety (Cronenwett et al., 2007). Recognizing the paramount importance of nurses in PS, there is a growing

emphasis on the integration of QSEN competency into nursing practice (Sherwood & Zomorodi, 2021).

As elucidated by Cronenwett et al., (2007) the comprehensive QSEN competency framework was developed to empower nurses with the knowledge and skills needed to continuously enhance the quality and safety of healthcare systems. Sherwood and Zomorodi (2021) underscore that within the QSEN competency framework, emphasis is placed on the development of competencies in PCC, teamwork and collaboration, EBP, QI, safety, and informatics.

The nursing field has shown significant interest in the pivotal QSEN competency for Nurses project—a collaborative effort between the American Association of Colleges of Nursing (AACN) and the QSEN competency Institute (Cronenwett et al., 2007). This framework has emerged as a vital tool for empowering nursing practitioners to deliver safe and high-quality patient care. In the realm of healthcare, PS stands as a paramount concern, with nurses positioned as frontline healthcare professionals responsible for its realization. The quality of care and patient outcomes are profoundly influenced by nurses' knowledge, competencies, attitudes, and strong commitment to upholding standards of quality and safety (Sherwood & Zomorodi, 2021).

This confluence of factors underscores the critical importance of the QSEN competency program in equipping nurses with the skills and mindset necessary to ensure the well-being of patients and elevate the overall standard of care in healthcare settings (Sherwood & Zomorodi, 2021).

Globally, there is a growing recognition of the importance of PS in healthcare systems. According to estimates from WHO, there are millions of PS incidents each year, underscoring the importance of developing policies and educational initiatives to

reduce risks and improve the safety culture inside healthcare institutions. The integration of QSEN competency into nursing education curricula has emerged as a key approach to enhancing PS and the quality of nursing care (WHO, 2019).

The goal of QSEN competency programs is to give nurses and professionals the knowledge, skills, and attitudes (KSAs) required to deliver safe, efficient, PCC by placing an emphasis on these competencies (Sherwood & Zomorodi, 2021). It is impossible to overestimate the value of nursing education that is both high-quality and safe. When it comes to patient care, nurses are essential since they serve as coordinators, advocates, and service providers. They are dealing with patients and carrying out care plans on the front lines. As a result, their attitudes, knowledge, and abilities directly affect patient outcomes and safety (Cronenwett et al., 2007).

The QSEN competency curriculum is aware of the complex environment that safe; high-quality care delivery must navigate within the healthcare ecosystem. It emphasizes how important it is for nurses to have a diverse skill set that goes beyond technical proficiency. EBP, interdisciplinary teamwork, the use of QI principles, and effective communication are critical in this regard. The QSEN competency program also recognizes the crucial role that technology and informatics play in contemporary patient care. This acknowledgment fits with how flexible healthcare systems are. The initiative intends to support clinical decision-making, improve patient outcomes, and increase the overall efficacy and efficiency of healthcare delivery by placing a strong emphasis on information and technology integration. The QSEN competency program is a complete strategy that gives nurses the skills required to negotiate the complexities of modern healthcare while promoting the highest standards of care and guaranteeing PS (Cronenwett et al., 2007).

Healthcare organizations can strengthen nurses' ability to provide safe PCC by integrating the QSEN competencies into nursing education and practice. These QSEN competency -based programs offer nurses and healthcare professionals a valuable platform to improve their communication skills, foster critical thinking abilities, and instill a culture of continuous learning and development. Addressing the challenge of preparing nurses to consistently enhance healthcare system quality and safety, the QSEN competency framework introduces six competency domains that underpin nursing education: PCC, teamwork and collaboration, EBP, QI, safety, and informatics (QSEN, 2013). This comprehensive approach equips nurses to meet the evolving demands of healthcare by emphasizing both patient-centeredness and the fundamental principles of quality and safety in healthcare delivery (Cronenwett et al., 2007).

The QSEN competency program represents a valuable initiative in nursing practice and education, equipping nurses with the essential KSAs required to deliver safe, efficient, and PCC by focusing on its six core competencies (Cronenwett et al., 2007). Considering significant safety and quality concerns within the United States healthcare system, multiple national commissions have identified the need for healthcare providers to possess a distinct set of competencies beyond those typically taught in educational settings (Nagep, 2020). The integration of the QSEN competency program into nursing curricula and professional development endeavors presents an opportunity to substantially enhance PS, healthcare quality, and patient outcomes. By grounding their practice in scientific evidence, healthcare practitioners can define the benchmarks of excellent care, pinpoint disparities between current care and optimal standards, and take appropriate actions to address any identified gaps (Yeganeh et al., 2019). This multifaceted approach underscores the program's profound impact on

nursing practice, ultimately benefiting both patients and the broader healthcare landscape.

The 2003 Institute of Medicine (IOM) Health Professions Education Report, as cited by Rababah et al. (2021), recommends colleges of medicine, nursing, and other health professions to train graduates to offer PCC as members of an interdisciplinary teams by placing an emphasis on EBP, QI methods, and informatics.

1.2 Significance of the Study

This study's importance stems from its ability to close a significant gap in the healthcare system, particularly within the Palestinian Ministry of Health (MOH). Even though PS is a worldwide priority, little is known about the application of the effects of QSEN competency programs in this setting. For several reasons, it is crucial to comprehend how QSEN competency affects the KSAs of junior nurses.

Globally, the highest priority in healthcare is PS (WHO, 2021). The provision of safe and high-quality treatment depends heavily on junior nurses, and patient outcomes are directly impacted by their competency. This study adds to the larger objective of enhancing PS within the Palestinian healthcare system by analyzing the effects of QSEN competency on junior nurses.

Policymakers, healthcare institutions, and nursing education programs in Palestine can learn from the findings of this study concerning the efficacy of QSEN competency -based programs. Making evidence-based decisions regarding the incorporation of QSEN competency principles into nursing education and practice, which will eventually improve patient care the incorporation of QSEN competency into nursing curricula in healthcare institutions acts as a catalyst for fostering a safety-oriented

culture that prioritizes collaboration, teamwork, and shared accountability for PS (Sherwood & Zomorodi, 2021).

This dissertation aims to investigate how junior nurses, a sizable portion of the nursing workforce, are affected by QSEN competency. Understanding how QSEN Competency affects the attitudes and behaviors of younger nurses is the main goal of this dissertation. It aims to identify the strengths of QSEN competency programs and the areas that might require more attention. This analysis intends to emphasize how critical it is to give newer nurses thorough training and assistance (Vaismoradi, 2020). This subject is anticipated to have a significant and highly favorable impact that can be summed up as follows:

1) The scientific importance of this study lies in the scarcity of studies that specifically dealt with the impact of QSEN competency on the KSAs of junior nurses which makes this study a new scientific attempt to identify the nature of the relationship between the two variables and develop appropriate scientific recommendations.
2) The study addresses the gap in the literature to bridge the link between nursing practice and quality and safety improvement processes. The literature supports the development and implementation of QSEN competency in junior nurses.
3) This study is significant to nursing practice, nursing education, and patient care outcomes.
4) Healthcare and medicinal services organizations can benefit from the utilization of healthcare workers' recommendations of PS culture in enhancing and improving it. Since healthcare workers are associated with direct contact with patients, it might be useful to consider their recommendations for the development of patient security.

5) This study could serve as a valuable resource for future research in nursing and patient safety, offering literature, recommendations, and suggestions relevant to contemporary healthcare safety, enabling interested scholars to conduct further studies and enhance their performance based on its findings and recommendations.

1.3 Problem Statement

Nursing educators play an essential role in shaping nurses' knowledge, skills, attitudes, and mind-sets related to patient safety. However, there is a lack of information on how the QSEN competency program impacts the KSAs of junior nurses in the existing literature. Therefore, empirical evidence is required to fill this knowledge gap and contribute to the existing collection of information. In this study, researcher aim to demonstrate how the QSEN competency program provides nurses with the essential KSAs needed to consistently improve healthcare standards and safety. The implementation of the QSEN competency program compels nurses to critically evaluate their nursing care methods to ensure the provision of high-quality and secure healthcare. By utilizing the QSEN competency application, discrepancies between current nursing practices and ideal standards can be identified and addressed.

In hospitals under the control of the Palestinian MOH, this study focuses on evaluating the effect of a QSEN competency -based program on junior nurses' KSAs and systems thinking. This discovery is especially relevant due to the dearth of QSEN competency -related studies in this area. By focusing on junior nurses, WHO in 2015 emphasizes the critical role they play in providing safe and high-quality treatment. Junior nurses make up a significant fraction of the nursing workforce. The findings of this study hold significance for various stakeholders in Palestine, including policymakers, healthcare organizations, and nursing education programs. Understanding

the impact of QSEN competency -based programs can inform decisions regarding the enhancement of PS outcomes and the competencies of junior nurses.

In the broader global context, healthcare systems, including that of the MOH, must prioritize PS and the delivery of high-quality care. Junior nurses, as primary healthcare providers, are essential in achieving these goals. However, they may face challenges in comprehending and implementing evidence-based procedures due to the absence of comprehensive and standardized quality and safety instruction in nursing programs. Moreover, a lack of training in interdisciplinary teamwork and effective communication can hinder their ability to address safety issues and prevent medical errors collaboratively. Junior nurses at the MOH may find it difficult to identify potential risks, implement best practices, and promote a culture of safety within healthcare settings without the structured framework provided by a QSEN competency -based program. Consequently, PS outcomes and overall healthcare quality may be compromised (WHO,2021).

1.4 Study Aims

The main aim of this study is: to determine the effect of the QSEN competency education program on junior nursing knowledge, attitudes, and skills toward patient care in the Palestinian MOH. To improve PS outcomes and the capabilities of junior nurses, the study intends to offer useful information to a variety of stakeholders in Palestine, including policymakers, healthcare organizations, and nursing education programs. It also emphasizes how crucial it is for healthcare systems around the world to prioritize PS and high-quality care.:

The research emphasizes the significance of thorough quality and safety training in nursing schools by identifying junior nurses' training needs and areas for

improvement through the evaluation of QSEN competency -based programs. To decrease medical errors and ensure PS, it also attempts to establish a culture of safety in healthcare institutions. It does this by placing a strong emphasis on inter-professional teamwork and open communication.

1.5 Study Objectives

The following are the study's objectives

1. To assess the effect of a QSEN competency program on quality and safety competence scores in junior nurses in Palestine.
2. To assess the role of QSEN competency in the knowledge of nurses through the perspectives of junior nurses in the Palestinian MOH.
3. To evaluate the skills of nurses through the perspectives of junior nurses in the Palestinian MOH.
4. To examine the attitudes of nurses through the perspectives of junior nurses in the Palestinian MOH.

1.6 Study Questions

The main question of this study is:

What is the impact of QSEN competency on the KSAs of junior nurses in MOH?

This main question is subdivided into the following sub-questions:

1. Do junior nurses in Palestine who take part in a QSEN competency illustrate a change in their quality and safety competence scores?
2. Do junior nurses in Palestine who take part in a QSEN competency show an improvement in their quality and safety knowledge scores?
3. . Do junior nurses in Palestine who take part in a QSEN competency experience a change in their skills about quality and safety?

4. Do junior nurses in Palestine who take part in a QSEN competency experience a change in their attitudes about quality and safety?

1.7 Study Hypothesis

The introduction of a QSEN competency -based program will improve the knowledge, skills, and attitude scores of junior nurses who participate in the QSEN at Palestine MOH to fulfill the aim of the study, the following study hypotheses were tested:

H1: Junior nurses who receive a QSEN competency -based program will exhibit improvement in knowledge regarding the care of patients.

H2: Junior nurses who receive a QSEN competency -based program will display improvement in skills regarding the care of patients.

H3: Junior nurses who receive a QSEN competency -based program will show a positive attitude regarding the care of patients.

1.8 QSEN Competency Intervention Program

The QSEN competency program is a complete method of nursing education and practice that gives nurses the KSAs required to collaborate with interdisciplinary teams to deliver safe, high-quality, PCC. It places a focus on constant learning, advancement, and ethical issues in healthcare (Cronenwett et al., 2007). By putting QSEN competency into practice in a hospital setting, nurses are given the tools they need to deliver safer, more PCC, which enhances healthcare outcomes and fosters a culture of ongoing learning and QI throughout the healthcare system. It ultimately serves the interests of patients as well as healthcare professionals (Sherwood & Zomorodi, 2021).

1.9 Teaching Methods

The researcher's goal is to provide information on practical methods for raising nurses' KSAs, which will subsequently improve PS and healthcare standards.

The teaching methods to be employed are:

- Lectures: Key concepts, theories, and principles linked to PS and quality care can be introduced through lectures, a conventional teaching strategy. But to keep nurse's attention, lectures need to be interactive and interesting.
- Case-Based Learning: Introducing actual or fictitious patient cases stimulates analysis and problem-solving skills. Nurses examine situations, pinpoint safety concerns, and offer solutions.
- Simulation: Learners can practice clinical skills and decision-making in a safe environment while concentrating on PS utilizing simulated scenarios, such as high-fidelity manikins or computer-based simulations.
- Group discussions: Discussions in smaller groups encourage participation and peer learning. Nurses can collaborate to investigate PS themes while exchanging ideas and sharing experiences.
- Role-playing: In numerous healthcare settings, role-playing enables nurses to put their communication, teamwork, and conflict resolution abilities into practice. It can be especially helpful for dealing with PS and interdisciplinary
- Problem-based learning: Nurses collaborate in small groups to find solutions to challenging patient care issues. They decide on learning goals, do background research, and use knowledge to solve PS problems.
- Flipped classroom: In this method, nurses read the material individually before class and use the time in the classroom to discuss, solve problems, and apply what they have learned. It may be useful for QSEN competency subjects that demand participation.

- Experiential Learning: Nurses can apply QSEN competency principles in actual healthcare settings by actively participating in patient care, QI initiatives, or safety activities.

1.10 Teaching Tools

To raise PS and the caliber of healthcare, researcher have used a training tool that is specifically designed for QSEN Competency. This tool gives junior nurses the KSAs they need to provide safe and effective care.

researcher can accomplish this by utilizing the following audio-visual aids:

- Visual Aids: Visual aids, such as PowerPoint presentations, infographics, and diagrams, can help illustrate complex concepts related to PS and quality care.
- Videos: Educational films and animations can offer a visually stimulating and participatory method to learn about subjects like infection control, drug safety, and interpersonal skills.
- Interactive Software: Educational software packages may include case studies and interactive simulations to support QSEN competencies.
- Checklists: Checklists, like those used in the WHO's Surgical Safety. Checklist; emphasize the importance of standardized processes in ensuring PS.
- Patient Stories: Sharing patient stories and testimonials can humanize the impact of PS and quality care, making it more relatable to learners.
- Models and displays: Using real medical equipment, safety procedures, or infection control measures in physical models or displays can help nurses comprehend and recall important ideas.
- Demonstrations: Live demonstrations of skills, procedures, or safety protocols by instructors or experts can enhance learners' understanding of practical applications.

1.11 Assessing Nurses Learning Outcomes

The context of QSEN competency involves evaluating whether nurses have acquired the KSAs necessary for safe and high-quality patient care.

To do this effectively:

- Clearly Define Learning Outcomes: Begin by defining specific learning outcomes based on the QSEN competency framework, covering PCC, teamwork, EBP, OI, safety, and informatics.
- Use Diverse Assessment Methods: Utilize a range of assessment methods to evaluate various aspects of nurses' learning. This may include written exams, skills assessments, direct observation in clinical settings, reflective essays, and group projects.
- Direct Observation: Observe nurses in real clinical settings to assess their application of QSEN competency principles in actual patient care scenarios. Structured checklists and rubrics can aid in this process.
- Written Assessments: Develop written assessments, such as multiple-choice questions, short-answer questions, or case studies, to gauge nurses' theoretical knowledge of PS and quality care.
- Skills Assessment: Assess nurses' clinical skills related to QSEN competencies, including communication, infection control, medication administration, and patient assessment.

1.12 Learning Program Outcomes Based on Bloom's Taxonomy

QSEN competency program can be used to assess the level of KSAs that nursing nurses or practicing nurses should possess as well as to build educational objectives. Nursing and working nurses should have the information, skills, and attitudes that the

QSEN competency program can help assess and advance. To reflect the depth and breadth of competencies necessary for nursing practice, the program's learning objectives are in line with several levels of Bloom's Taxonomy. The QSEN competency program's learning objectives are listed below for each level of Bloom's Taxonomy (Bloom et al., 1956).

After the intervention QSEN program nurses be able to:

- Knowledge (Remembering): Define the fundamental tenets of QSEN Competency, such as teamwork, PCC, and EBP. Recall the essential elements of PS and high-quality medical care. The importance of each of the six QSEN competencies in nursing practice (Cronenwett et al., 2007).
- Comprehension (Understanding): understanding PCC's significance in nursing practice. And how teamwork and collaboration affect patient outcomes. Recognize the importance of EBP in providing high-quality treatment. Describe the connection between PS and QI programs (Sherwood et al., 2014).
- Application (Applying): Apply patient-centered communication techniques in dealing with a variety of patient demographics. In a clinical context, exhibit strong teamwork and collaboration abilities. Make clinical decisions based on studies with strong empirical support. Join quality-improvement initiatives to increase PS (AACN, 2008).
- Analysis (Analyzing): Analyze complex patient cases must find ways to raise the standard of care. Analyze the success of interdisciplinary collaboration in reaching PS objectives (Sherwood et al., 2014).
- Synthesis (Creating): Create a PCC plan that responds to a patient's needs and preferences. Develop and oversee a clinical unit's program to improve the quality of

healthcare. Create interdisciplinary plans to improve patient security (Cronenwett et al., 2007).

- Evaluation (Evaluating): Evaluate the outcomes of PCC interventions and adjust the plan as needed. Evaluate the integration of informatics and technology in improving PS (Sherwood et al., 2014).

1.13 Conceptual Framework

In this framework, the central focus is on assessing how the independent variable, the QSEN competency -Based Education Program, impacts the dependent variable, KSAs for junior nurses. The QSEN competency -Based Education Program is expected to influence key attributes of junior nurses, as indicated by arrows in the diagram depicting the direction of impact. Represents the conceptual framework of the study including the dependent variable Junior Nurses' KSAs, and independent variables QSEN competency -Based Education Program. To clarify the causal linkages between the QSEN competency program and the KSAs of junior nurses, this framework directs the research design and analysis.

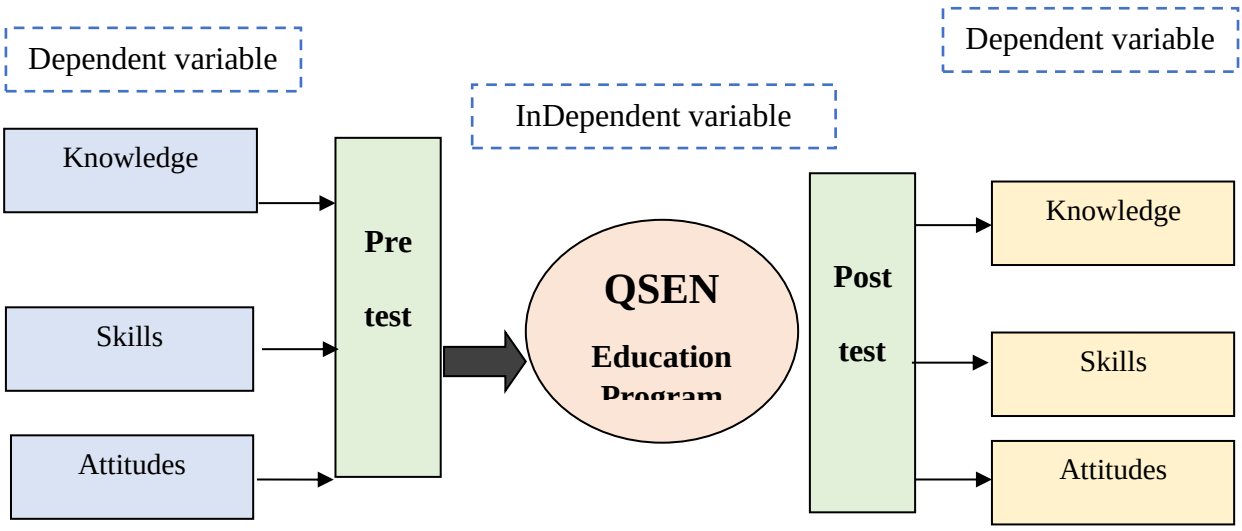

Figure 1: Conceptual Framework

1.14 Conceptual Definitions

The following definitions represent the conceptual definitions of the study variables:

Knowledge: “Refers to the familiarity, awareness, or understanding acquired through experience, study, or education. It encompasses information, facts, skills, and expertise that enable individuals to comprehend, reason, and make informed decisions in various domains of life”.

(Oxford English Dictionary https://www.oed.com/view/Entry/107920).

Skills: “Skills refer to the practical, learned abilities and proficiencies that individuals acquire through training, practice, or experience. These abilities enable individuals to perform specific tasks, solve problems, or carry out particular activities effectively and efficiently”.

(https://dictionary.cambridge.org/us/dictionary/english/skills).

Attitudes: “A person's enduring, evaluative beliefs, feelings, and tendencies toward objects, individuals, or concepts. They encompass the overall disposition or inclination, whether positive, negative, or neutral, that an individual holds toward an aspect of the world, influencing their thoughts, behaviors, and responses”.

(https://www.merriam-webster.com/dictionary/attitude).

QSEN: A national initiative called QSEN encourages nurses to redefine "what and how" they provide nursing care to guarantee high-quality, safe care (Dolansky & Moore, 2013). QSEN acronyms consist of four concepts and their definition is as follows:

Quality: “The standard of something when it is compared to other things like it; how good or bad something is”.

(Oxford English Dictionary

https://www.oxfordlearnersdictionaries.com/definition/american_english/quality).

Safety: "The state of being safe and protected from danger or harm". (Oxford English Dictionary, https://www.oxfordlearnersdictionaries.com/definition/english/safety).

Education: "A process of teaching, training, and learning, especially in schools, colleges or universities, to improve knowledge and develop skills". (Oxford English Dictionary, https://www.oxfordlearnersdictionaries.com/definition/english/education).

Nurse: "A person whose job is to take care of sick or injured people, usually in a hospital". (Oxford English Dictionary,

https://www.oxfordlearnersdictionaries.com/definition/english/education).

1.15 The Operational Definition

The researcher used in this study English-language self-administered questionnaires were the only type of research tool. Two instruments were used to respond to two distinct Questionnaires,1st one The Clinical Performance Evaluation Questionnaire (CPEQ), second one the KSAI-PCCS: both are self-report questionnaires and these tools help the researcher achieve his goals by examining the impact of the QSEN competency program on the KSAs of nursing in hospitals.

1.The Clinical Performance Evaluation Questionnaire (CPEQ)

The CPEQ is a tool used to measure the clinical performance of healthcare professionals. It is a self-administered questionnaire comprising 32 items divided into six domains, including PCC items 8 items, teamwork 7 items, EBP 2 QI items 3 items, safety 6 items, and informatics 6 items as:

1.1 Patient-Centred Care (PCC): Nurses' approach to care that prioritizes the patient's values, preferences, and goals as central to decision-making. This includes demonstrating respect for patient autonomy, individuality, and cultural values. Actively

involving patients and families in care planning and decision-making. Communicating effectively with patients in a clear, empathetic, and culturally sensitive manner. Providing patient-centred education and support to empower informed choices. Responding to patient needs and concerns with compassion and sensitivity. Measurement assessed through a combination of methods, including self-reported attitudes and values related to PCC through 8 items. Nurses can choose, through their perceptions of the 8 sentences, by placing S (satisfactory) NI (need improvement) or U (unsatisfactory) before the QSEN competency program, but after the program nurse perception nurses can choose only two possibilities S (satisfactory) or U (unsatisfactory) based on the same 8 sentences about their perceptions (QSEN, 2007).

1.2 Teamwork and Collaboration: Nurses' ability to effectively work within and across healthcare teams to provide optimal patient care. This includes communicating clearly, concisely, and constructively with other healthcare professionals (e.g., physicians, nurses, therapists) to share information, coordinate care plans, and resolve disagreements. Actively contributing to team discussions, decision-making processes, and problem-solving activities. Recognizing and respecting the expertise of other team members, while holding oneself accountable for shared goals and patient outcomes. Addressing disagreements and concerns in a professional and respectful manner, seeking solutions that prioritize PS and well-being.

Stepping up to lead or delegate tasks within the team as needed, fostering a collaborative and supportive environment.

Nurses can choose, through their perceptions of the 7 sentences, by placing S (satisfactory) NI (need improvement or U (unsatisfactory) before QSEN competency program, but after the program nurse perception nurses can choose only S (satisfactory)

or U (unsatisfactory) based on the same 7 sentences about their perceptions (QSEN, 2007).

1.3 Evidence-Based Practice (EBP): Nurses' ability to integrate research findings, scientific evidence, and best practices into clinical decision-making to provide optimal patient care. This includes skilfully searching, evaluating, and applying current research evidence to individual patient situations. Critically appraising existing clinical protocols and guidelines for relevance and applicability. Actively participating in knowledge translation and evidence implementation initiatives. Demonstrating willingness to adapt care practices based on evolving evidence and emerging research. It is assessed through a combination of methods, including self-reported skills proficiency on through 2 items. Nurses can choose, through their perceptions of the 2 sentences, by placing S (satisfactory) NI (need improvement) or U (unsatisfactory) before The QSEN competency program, but after the program nurse can choose only two possibilities S (satisfactory) or U (unsatisfactory) based on the same 2 sentences about their perceptions (QSEN, 2007).

1.4 Quality Improvement (QI): Nurses' role in continuously evaluating and improving the quality and safety of healthcare services. This includes identifying areas for improvement in healthcare processes and outcomes. Participating in the design and implementation of QI initiatives. Collecting and analysing data to monitor progress and evaluate interventions. Advocating for EBP and PS initiatives.

It is also assessed through a combination of methods, including Participation in QI projects and initiatives within the healthcare setting. Analysis of QI data and reports to identify trends and patterns. Development and implementation of QI plans and protocols. Self-reported commitment to QI principles and activities through 3 items.

Nurses can choose, through their perceptions of the 3 sentences, by placing S (satisfactory) NI (need improvement or U (unsatisfactory) before The QSEN competency program, but after the program nurse can choose only two possibilities S (satisfactory) or U (unsatisfactory) based on the same 3 sentences about their perceptions (QSEN, 2007).

1.5 Safety: Nurses' proactive and dedicated approach to protecting patients from harm and creating a safe healthcare environment. This includes identifying and mitigating potential risks and threats to patient safety. Reporting safety incidents and advocating for corrective actions. Following established safety protocols and guidelines consistently. Promoting a culture of safety and patient-centred care within the healthcare team. Demonstrating continuous vigilance and critical thinking to ensure patient safety. Safety is assessed through a combination of methods, including observation of safe practices and adherence to safety protocols in clinical settings. Analysis of incident reports and near-miss events to identify risk factors. Knowledge assessment of PS principles and guidelines. Self-reported commitment to PS and risk management practices through 6 sentences. Nurses can choose, through their perceptions of the 6 sentences, by placing S (satisfactory) NI (need improvement) or U (unsatisfactory) before The QSEN competency program, but after the program nurse can choose only two possibilities S (satisfactory) or U (unsatisfactory) based on the 6 sentences about their perceptions (QSEN, 2007).

1.6 Informatics: Nurses' competence in using information technology and communication systems to support and enhance patient care. This includes: Proficiency in utilizing electronic health records (EHRs) for documentation, data retrieval, and communication.

Ability to leverage technology for clinical decision support, patient education, and remote monitoring. Understanding of data security and privacy principles in healthcare computing.

Effective communication and collaboration with other healthcare professionals through technology platforms. Measurement: Assessed through Self-reported through 6 items a combination of methods, including: Hands-on skills demonstration with EHRs and other nursing informatics tools. Knowledge assessment of data security and privacy regulations. Evaluation of written communication and collaboration using technology platforms. Observation of technology utilization in clinical practice. Nurses can choose, through their perceptions of the 6 sentences by placing S (satisfactory) NI (need improvement) or U (unsatisfactory) before The QSEN competency program, but after the program nurses can choose only two possibilities S (satisfactory) or U (unsatisfactory) based on the same 6 sentences about their perceptions (QSEN, 2007).

2. Patient-Centred Care Scale (KSAI-PCCS)

The PCC Scale (KSAI-PCCS). Developed by Sherwood and Barn Steiner in 2012, the KSAI-PCCS is a comprehensive tool designed to assess nurses' patient-centered KSAs. The KSAI-PCCS is a self-report questionnaire a 54-item instrument with three subscales: Knowledge (19 items), Skills (17 items), and Attitudes (18 items). The KSAI-PCCS was developed by Sherwood and Barnsteiner (2012), and it has been used in a variety of research studies to assess nurses KSAs ' regarding patient-centred care. It consists of 54 divided into three domains items knowledge (19 items), skills (17) items, and Attitudes (18 items), and respondents rate each item on a scale from 0 (never) to 5 (very frequently). Each was assessed using a 5-point Likert scale. The scale employs a

rating system 5-point Likert scale ranging from "never" to "very frequently. This operational definition facilitates the measurement of practitioners' PCC capabilities and provides valuable insights into areas for improvement in the delivery of compassionate and coordinated care based on respect for patient preferences, values, and needs (QSEN, 2007).

2.1 Knowledge: Nurses' understanding of theoretical principles, concepts, and practices relevant to PCC, including: Integration of diverse cultural, ethnic, and social backgrounds into care decisions coordination and integration of care for optimal patient outcomes effective communication skills in patient interactions provision of physical comfort and emotional support to patients understanding of pain and suffering and its management.

Importance of active patient and family involvement in healthcare. Ethical and legal aspects of PCC. Measurement: Assessed nurses can use knowledge-related statements to communicate their opinions by selecting of 19 possible answers, ranging from 0 (never) to 5 (very frequently).by use of self-report through the tool KSAI-PCCS knowledge subscale before and after the QSEN competency program (QSEN, 2007).

2.2 Skills: Definition: Nurses' ability to apply knowledge and judgment to perform competent clinical practices related to PCC, including: Integrating patient, family, and community values into care decisions. Coordinating and communicating effectively with patients, families, and healthcare professionals. Providing culturally competent care that respects diverse values and preferences. Collaborating with patients and families in care planning and decision-making. Demonstrating critical thinking and problem-solving skills in complex clinical situations.

Utilizing technology effectively to support and document PCC practices. Assessed nurses can use skills -related statements to communicate their opinions by selecting of 17 possible answers, ranging from 0 (never) to 5 (very frequently).by use of self-report through the tool KSAI-PCCS skills subscale before and after the QSEN competency program (QSEN, 2007).

2.3 Attitudes: Nurses' values, beliefs, and dispositions that influence their approach to PCC, including appreciation for understanding healthcare from the patient's perspective. Respect for patient values, preferences, and autonomy. Commitment to lifelong learning and cultural competency. Willingness to engage in EBP and QI initiatives. Collaborative mind-set and dedication to shared decision-making with patients and families. Ethical awareness and commitment to upholding patient rights and responsibilities.

Measurement: Assessed nurses can use attitudes -related statements to communicate their opinions by selecting of 18 possible answers, ranging from 0 (never) to 5 (very frequently).by use of self-report through the tool KSAI-PCCS attitudes subscale before and after the QSEN competency program (QSEN, 2007).

Chapter Two

Literature Review

2.1 Introduction

In this chapter, researcher explore previous studies, exploring the heart of nursing education and its profound effects on practice. researcher explore into the studies that clarified the details of the QSEN competency -based program, its methodologies, and the results it achieved among novice nurses. By examining the KSAs of these aspiring healthcare professionals through literature, we seek to see the far-reaching implications of this initiative, not only within the confines of the Palestinian healthcare system but also as a beacon of inspiration for nursing communities around the world (Steffens, 2017).

The QSEN competency program is a vital framework in healthcare, addressing the critical need for PS and nurse competence. It consists of six core competencies PCC, Teamwork, EBP, QI, Safety, and Informatics. Developed by nursing experts, QSEN competency is central to nursing education and practice, preparing nurses to deliver safe, high-quality care and adapt to evolving healthcare environments. It bridges the gap between theory and real-world practice, equipping nurses with essential KSAs. The QSEN competency components and core competencies play a pivotal role in shaping nursing education and influencing patient outcomes. Our mission is to grasp the profound impact of QSEN competency on nursing excellence. Through a diverse body of research, we aim to understand how QSEN competency, as highlighted by IOM, has not only enhanced nursing education, but has also become the base for advancing PCC, safety, and healthcare quality (Cronenwett et al., 2007).

2.2 Searching Methods

First, the search process began from April 1, 2023, to June 1, 2023. A search was conducted for keywords using specific terms like QSEN competency program , "Nursing education and PS", "Impact of QSEN on nursing practice" "PCC in nursing", "Teamwork and collaboration in healthcare", " EBP in nursing", "QI initiatives in healthcare", "PS in nursing", "Nursing competencies and QSEN", "Nursing curriculum development and QSEN", "Nursing perceptions of QSEN", "QSEN implementation in healthcare settings", "QSEN assessment and evaluation", "Nursing faculty training in QSEN", “nursing education, “PS“, competencies, and any specific areas investigating (e.g., PCC, EBP)

In the next stage, the researcher identified relevant academic databases about the title of the study to search for literature. Common options included PubMed, CINAHL, MEDLINE, Scopus, Google Scholar, and Psych INFO. In addition, I created a comprehensive search strategy using relevant keywords and Boolean operators" AND" and "OR" to refine my search like, " Quality and Safety Education-Based Programs" OR" QSEN" AND" Junior nurses" OR "Entry-level nurses "OR "Novice nurses AND “Knowledge “OR “Skills“OR Attitudes “AND “MOH “ OR “Palestine healthcare system“). Reading and critically analysing each selected article, paying attention to key findings, methodologies, and limitations.

Also, the researcher summarized each study's information, including study design, sample size, intervention details, and outcomes. In addition, it identified common themes, trends, or discrepancies in the literature regarding the impact of QSEN- competency based programs on junior nurses in Palestine. Structured the literature review following a coherent format. Include sections such as introduction,

methodology, key findings, discussion, and conclusion. The researcher discussed the overall state of the literature, including any gaps in research or areas needing further investigation, and provided a critical analysis of the quality and relevance of the studies you reviewed. In addition, it highlights the implications of the findings for nursing practice and policy in the MOH.

2.3 Inclusion Criteria

Studies published in English with different research designs and methodologies are included, provided they address the research topic and are pertinent to the research focus, ensuring a comprehensive analysis.

2.4 Exclusion Criteria

In the selection process, duplicate studies were excluded to prevent redundancy, studies older than 10 years were excluded, and 10% before, unless no updated versions are available but must remain relevant to the research, studies without accessible full texts were excluded, and studies employing ambiguous research instruments were also excluded.

2.5 Overview QSEN Competency as a Teaching Program

The QSEN competency abilities are highlighted in the comprehensive study. These abilities serve as the foundation, ensuring that nurses at all stages of their careers, whether they are students just starting or seasoned professionals, have the necessary KSAs needed to provide patient care that is not only safe but also of the highest quality. The study emphasizes that QSEN competency skills are a lifelong framework, a guiding light that illuminates the route to nursing quality and safety. The study introduces the QSEN competencies, which are designed to ensure that nurses, both students, and professionals, possess the necessary KSAs to provide safe and high-quality patient care.

It emphasizes that QSEN competencies are relevant to all nurses, regardless of their level of experience, from seasoned professionals to beginning students. The competencies are a framework for quality and safety education throughout a nursing career. QSEN competencies, particularly in patient-centred care, teamwork, EBP, QI, safety, and informatics. The study's conclusion emphasizes the critical role that nurses play in improving healthcare quality and safety. Teaching helps students recognize their responsibility in this regard (Altmiller, 2019).

The research was conducted to investigate the utilization of QSEN competencies in the realm of graduate nurse education and advanced practice clinical settings. The central objective was to gauge the current extent of the application of these competencies in these critical domains.

The study found an important discovery in the nursing profession. Various professional nursing organizations have taken substantial steps, developing policies, educational programs, and competencies aimed at encouraging the quality of patient care. Foremost among these initiatives is the pioneering work of the QSEN competency Institute, which has been instrumental in integrating quality and safety competencies into the curricula of graduate nursing programs and the clinical practice of advanced practice nurses. However, the study highlights an intriguing paradox. Despite the widespread adoption of these competencies in both graduate curricula and clinical practice settings, their actual implementation varies significantly. Graduate nursing faculty, while addressing quality and safety competencies, often do so without explicit reference to the QSEN competency framework. This may lead to a situation where advanced practice nurses graduate without a clear awareness of these vital competencies due to the absence of explicit references to QSEN competency in their education .This

systematic review underscores the need for a more coherent and standardized approach to incorporating QSEN competencies in graduate nursing education and advanced practice clinical settings. It illuminates the existing gaps and variations in practice, urging the nursing community to strive for a more unified and consistent integration of these competencies to ultimately enhance the quality and safety of patient care (Ferro, 2021)

2.6 The Impact of PS on Healthcare Outcomes

(DiCuccio, 2015) carried research in the United States. The study assessed the importance of the relationship between PS culture and patient outcomes and sought to thoroughly examine earlier research to identify any instruments, degrees of measurement, and findings that have demonstrated meaningful relationships in this setting.

2.7 Overview of the Importance of PS Initiatives

Studies assess initiatives aimed at improving healthcare safety culture and climate. Among the 32 studies examined for efficiency, 23 demonstrated statistically significant impacts of the interventions on various safety culture characteristics. These impacts were reflected in the total safety culture score, safety climate score, or at least 50% of the assessed domains or components. While some studies specifically noted improvements in teamwork climate, not all showed corresponding enhancements in the broader safety culture or environment. Additionally, the research explored modifications in care processes, patient outcomes, and clinician well-being, including turnover and burnout. Out of the 19 research investigations that investigated into these outcomes, six revealed statistically significant clinical improvements. Interestingly, one study stood out, indicating that multimodal approaches that combined cultural elements

(such as posters addressing mistakes) with system-focused adjustments (like medication management protocols) led to a reduction in patient harm due to errors. In a cluster randomized controlled trial emphasizing collaborative teamwork, an integrated training course designed to enhance PS resulted in a substantial 37% reduction in weighted adverse outcomes within the experimental unit. Beyond these findings, two separate investigations highlighted that safety-focused initiatives contributed to reduced turnover rates among nurses (Weaver et al., 2013).

2.8 Core Competencies of QSEN

Sherwood (2021) in hospitals from the United States, where QSEN competency has been certified, highlights the importance of PCC as one of the core competencies in this field of nursing, along with teamwork, EBP, QI, safety, and informatics. PCC places a strong emphasis on actively engaging patients and their families in care planning, respecting their individual preferences, values, and needs, and ensuring their participation in decision-making. Research studies have demonstrated that incorporating PCC principles leads to a range of positive outcomes, including increased patient satisfaction, improved communication between patients and healthcare providers, and enhanced adherence to treatment plans.

These Competencies were

Patient-Centred Care: Nurses must be able to individualize care to meet the specific needs of each patient. This includes understanding the patient's background, preferences, and values, as well as their medical condition and treatment plan. Nurses must also be able to communicate effectively with patients and their families and provide education and support to help them make informed decisions about their care (Sherwood, 2021).

Teamwork and Collaboration: Teamwork entails effective communication, cooperation, and coordination among healthcare professionals to provide safe and efficient care. Research indicates that teamwork and collaboration are linked to reduced medical errors, improved patient outcomes, and increased healthcare worker satisfaction (Sherwood, 2021).

EBP: involves integrating the best available evidence, clinical expertise, and patient preferences into decision-making to optimize patient care. Implementing EBP has been associated with reduced variations in care, improved patient outcomes, and increased healthcare quality (Sherwood, 2021).

QI: focuses on systematic approaches to monitor, assess, and enhance healthcare processes and outcomes to meet or exceed established standards. QI initiatives have led to reduced healthcare costs, enhanced patient safety, and improved clinical outcomes in various healthcare settings (Sherwood, 2021).

Safety: competency emphasizes minimizing risk, preventing errors, and ensuring a culture of safety within healthcare organizations. Safety initiatives have resulted in fewer adverse events, reduced healthcare-associated infections, and overall improvements in PS (Sherwood, 2021).

Informatics: competency relates to using information and technology to support decision-making, enhance patient care, and improve healthcare systems. Integration of informatics has led to increased efficiency in healthcare delivery, improved patient data management, and enhanced clinical decision support. These core competencies collectively contribute to nurses' ability to provide safe, effective, and PCC while continuously improving healthcare quality and outcomes (Sherwood, 2021).

Another study is a comprehensive analysis of the QSEN competency literature, shedding light on its publication patterns, areas of focus, and potential areas for improvement. This study takes a quantitative approach to analyse the extant QSEN competency literature, providing valuable insights into the publication trends, types of articles, and annual publication rates. It identifies the peak year for QSEN competency publications and tracks variations in publication rates, reflecting the increasing recognition and relevance of QSEN competency in nursing education and practice. The study categorizes QSEN competency -related articles into various types, such as research, descriptive/reviews, QI projects, and editorials. This classification allows for a deeper understanding of the diverse ways in which QSEN competency is explored and discussed in the literature, aligning with the multifaceted nature of QSEN competencies. Through focus analysis, the study identifies key areas of publication focus within the QSEN competency literature. These areas include clinical teaching, simulations, performance assessment, innovation, and patient care outcomes. Understanding these areas of emphasis can guide future research and curriculum development efforts in nursing education (Sherwood et al., 2023).

This study focuses on the integration of QSEN competencies and KSA statements into nursing curricula over 17 years. To address this, the authors developed a QSEN-AACN pre-licensure crosswalk, which serves as a tool to assist faculty in mapping and integrating the 2021 AACN Essentials into their nursing curriculum. The study outcomes are that the 6 QSEN competencies have a substantial overlap with the 10 AACN Essentials domains, except for EBP, which is categorized as a concept rather than a domain. Additionally, the study identifies fifty graduate-level QSEN competency KSAs that are better aligned with pre-licensure education and are therefore deemed

important for integration into the crosswalk. Most notably, all but one of the original pre-licensure QSEN competency KSA statements and all but two of the fifty transferred graduate-level QSEN competency KSAs were found to align with the AACN Essentials (Dolansky et al., 2023).

According to study centres on the ever-evolving healthcare landscape and the enduring relevance of the QSEN competencies within this dynamic context. Notably, QSEN competency was launched back in 2005 as a nationwide nursing initiative, aimed at equipping nurses with the capacity to continually enhance healthcare's quality and safety. The six QSEN competencies, coupled with their associated KSAs, have played a pivotal role in shaping nursing curricula, elevating professional practice standards, fostering research initiatives, and contributing to systemic enhancements in healthcare delivery. The research also examines Amazon's social impact as an international technological and e-commerce giant. To succeed in the changing medical landscape, nurses require digital literacy, adaptability, and the ability to engage families and patients as engaged partners in treatment, according to the report. The study highlights the adaptability and endurance of QSEN competency abilities in nursing, how they correlate with current healthcare movements, and the significance of nurses continually enhancing their skills and knowledge to provide safe and high-quality care in rapidly changing healthcare surroundings (Disch &Barnsteiner, 2021).

2.9 QSEN Competency Implementation in Nursing Education

A pilot project intended to create an educational activity based on the QSEN competency framework that combined an unfolding case study with interactive gaming components. The study then intended to assess the efficiency of this training activity in improving nursing students' clinical reasoning skills. Nursing students were examined using the Nurse Clinical Reasoning Scale (NCRS) in Italian, and the instructional activity was given to them. To compare the students' responses before and after the educational exercise, a paired sample t-test was performed. The paired sample t-test results showed a statistically significant rise in NCRS scores following the educational intervention. The significantly better NCRS scores in the post-intervention evaluation indicated that clinical reasoning skills had improved (Marcomini et al., 2021).

2.10 QSEN's Competency Effect on Junior Nurses' KSAs

The study conducted by Schuler and colleagues (2023) underscores the significance of nurse educators actively participating in academic pursuits. Central to their findings is the crucial role played by collaborative institutions, specifically highlighting the contributions of the QSEN competency academic task force. This paper delves into the importance of nurse educators' scholarly involvement, recognizing the multifaceted demands placed on them, and emphasizes how organized groups like the QSEN competency academic task force can serve as vital support systems**.** The research findings underscore the positive and constructive influence of these organized work groups in promoting scholarship (Schuler et al., 2023).

Another study analysed the feasibility of implementing an orientation program based on QSEN competencies and to investigate nurse educators' and newly hired registered nurses' (RNs') perceptions of the program's acceptability, sufficiency, and

satisfaction. The study also examined newly hired RNs' safety attitudes and quantified changes in their EBP knowledge levels before and after participating in the QSEN competency -framed orientation session. Focus group sessions with semi-structured interviews, demographic questionnaires, Safety Attitudes Questionnaire-Short Form (SAQ), and EBP knowledge Assessment for Nursing (EKAN) assessments were used to collect data. The study finds the feasibility of offering a QSEN competency -framed orientation program, Participants perceived the orientation program as acceptable, satisfactory, and enough. The SAQ results indicated a positive safety attitudes climate in various domains and there were no significant differences in EBP knowledge levels before and after the QSEN competency -framed Effects of Orientation Program (Schuler et al., 2023).

2.11 QSEN Competency Implementation on Patient Outcomes and Quality of Care

In their discussion of the incorporation of QSEN competencies into nursing courses, Schuler et al. (2023) concentrate on a senior-level course on medical safety. These learning areas show that students have mastered the fundamental ideas of safety, including error mechanisms, understanding safety culture to lower their chance of making mistakes, and avoiding mistakes in their nursing practice in the future. The eight categories of student learning in medical safety were verified with QSEN’s 20 items of KSA with an attainment level of 75%. Given these outcomes, two areas of improvement were identified from this study for this course. Although students have had good learning experiences in the clinical setting, we realized that the favourable clinical experiences they have had could not have been possible without appreciating the great contributions nurses made and the collaborative relationship we have had with our clinical partners. Second, classroom learning should be enriched by adding more tools,

national safety standards, case studies, and clinical simulation exercises in medical safety to prepare students before their practicum for more effective clinical learning (Schuler et al., 2023).

2.12 QSEN Competency Development and Evolution

Young et al. (2021) state that their study examined how QSEN competencies could be integrated into a conventional bachelor nursing curriculum. The incorporation of QSEN competencies into nursing education is emphasized by this research. It draws attention to the thoughtful creation of high-quality and safe labs that are integrated across the curriculum and match students' learning objectives with the six QSEN competency criteria. The study discusses the progression in learning across the three safety and quality labs. Each lab is designed to build upon the previous one, introducing students to increasingly advanced concepts related to QI, teamwork, collaboration, and system safety. This progression aligns with the developmental nature of nursing education. The study found that students expressed gaining knowledge and confidence in applying all six QSEN competencies after completing the labs (Young et al., 2021).

2.13 The Importance of QSEN Competency in Nursing Education and Practice

Another study that covered the QSEN competencies discovered a comprehensive literature review with recommendations for educational initiatives. Since the QSEN competency literature's establishment in the US in 2005, the study examines publication trends and patterns in this field. Without a doubt, QSEN competency has had a significant impact on nursing education, mostly through enhancing the standard of safe patient care and lowering damage. Its inclusion in the competency-based 2021 AACN Essentials highlights this significance. The major goal of this study is to assess QSEN's competency global reach and impact while

methodically mapping existing knowledge and data on QSEN competency. According to the analysis, there were 14.5 annual publications relating to QSEN competency on average, with the apex occurring in 2017, accounting for 26 publications. These clusters covered a wide range of topics, including clinical education and simulations, performance evaluation, contextual factors, efficacy determinants, advanced practice innovation, patient care and outcomes, academic concepts, and research frameworks. This comprehensive review of the QSEN competency literature provides significant insights into the changing landscape of QSEN competency, as well as a road map for future research and educational activities (Cengiz &Yoder, 2020).

Another study of why QSEN competency matters in practice emphasizes the importance of QSEN competency in nursing practice and underscores the significance of QSEN competency in nursing practice. It acknowledges that QSEN competency is not just a theoretical concept, but a crucial framework that directly impacts the quality and safety of patient care in real-world healthcare settings. It highlights how QSEN competency principles can be integrated into daily nursing practice to enhance patient outcomes and ensure safe care delivery. This focus on application aligns with the practical orientation of the previous studies. And, emphasizes the importance of continuous learning and improvement. It recognizes that QSEN competency are not static but require ongoing development and refinement to adapt to changing healthcare environments and patient needs. It funded that QSEN competencies help nurses prioritize the needs and preferences of patients, ultimately improving the patient experience (Altmiller & Hopkins, 2019).

In a comprehensive study by Sullivan., et al (2009), the focus was set on evaluating the perspectives of graduating nursing students from 17 diverse nursing

schools across the US regarding the QSEN competencies. The research aimed to understand students' views on the quality and safety content covered in their nursing programs, their self-reported readiness in these competencies, and their perceived significance of each of the six QSEN competencies. The findings of this study yielded valuable insights. Firstly, it was evident that all pre-licensure nursing students from the 17 participating schools unanimously recognized the vital importance of the QSEN competencies for their future professional nursing practice. Among these competencies, PCC emerged as the most highly regarded by the surveyed students.

Conversely, the competency perceived to have the lowest ability level and rated as one of the least important among the QSEN competency themes was quality improvement. This observation underscores a potential area for improvement in nursing education, emphasizing the need for a more balanced approach to all QSEN competencies. Additionally, the study shed light on the underutilization of clinical labs and simulations in the context of quality and safety education. These settings have the potential to provide an ideal environment for imparting the KSAs associated with the QSEN competencies, suggesting opportunities for enhancing the pedagogical strategies used in nursing education. The research underscores the significance of QSEN competencies in nursing education and practice, highlighting students' recognition of their importance. It also draws attention to the varying levels of readiness and perception of these competencies among nursing students, emphasizing the need for a more balanced and comprehensive approach to their integration into nursing curricula (Sullivan & Cronenwett, 2009).

2.14 PS Education

The goal of Altmiller et al.'s 2020 project is to raise worldwide standards for healthcare safety and quality. It highlights how the health of one country affects others elsewhere, highlighting the necessity of international cooperation. In the context of the Year of the Nurse and Midwife, the QSEN competencies provide a framework that transcends cultural boundaries, enabling nurses worldwide to contribute to PS and quality-of-care delivery, and discusses initiatives aimed at sharing resources and strategies for quality and safety education and practice among nurses across different countries. It recognizes the importance of sharing best practices and educational approaches to enhance nursing education and patient care on a global level. The study finds that the QSEN competencies are relevant and applicable across diverse cultural contexts. It demonstrates that these competencies can be effectively integrated into nursing education and practice in China, highlighting their universality and adaptability (Altmiller et al., 2020).

2.15 The WHO's Global PS Action Plan

The study focuses on the global PS action plan 2021-2030" which is a significant initiative that aligns QSEN competency and patient safety. The action plan's vision of achieving a world in which no one is harmed in healthcare reflects the shared goal of eliminating avoidable harm, which is a central theme in PS education and practice. Similar to the focus on integrating QSEN competencies into nursing education and practice, the global action plan outlines policy actions aimed at improving the safety and quality of health services. It also emphasizes the importance of implementing recommendations at the point of care, reinforcing the idea that PS efforts must translate into practical improvements. The action plan provides strategic direction for all

stakeholders, echoing the collaborative nature of QSEN competency initiatives and the involvement of various healthcare professionals, educators, policymakers, and organizations. It recognizes that improving PS requires a concerted effort from multiple parties (WHO, 2021).

2.16 Quality and Safety Competencies

The study conducted by Armstrong (2019) delves into the relationship between (PS) and (QSEN) competency frameworks. This investigation particularly focuses on the impact of incorporating just culture into PS initiatives, aiming to broaden the understanding of PS beyond the conventional emphasis on individual competency. The study underscores the significance of system factors and organizational culture in shaping the landscape of patient safety**.** The report provides nurses with actionable takeaways for incorporating the ideas of just culture into their practice and organizations. It urges nurses to become advocates for fostering a safe culture in their healthcare environments. Nurses are advised to promote open communication, reporting of errors and near misses, and participation in root cause analysis to identify system-level improvements. The focus was on the significance of a just culture in enhancing patient safety, particularly within the nursing profession. The study delved into how the implementation of a just culture has expanded nurses' understanding of PS and offered valuable insights for nursing practice. PS is a well-established domain for nurses, and the study underscored the need for effective error gap analysis in this context. The findings highlighted the pivotal role of a just culture in driving improvements in PS. This study contributes to the growing body of knowledge regarding PS and emphasizes the importance of fostering a just culture to enhance patient care and safety (Armstrong, 2019).

2.17 Factors Influencing QSEN Competency Implementation

Alireza Khammar (2019) conducted a study to assess the safety climate for patients in hospitals and rehabilitation centres affiliated with the University of Social Welfare and Rehabilitation Sciences. He defined safety climate as the perceived value of safety within an organization, which holds significant implications for the safety of both healthcare workers and patients. This includes organizational factors, leadership styles, staff training, communication, and the availability of resources for ensuring PS, and it explores how the perceived safety climate among healthcare staff affects PS outcomes. This descriptive-analytical study involved 300 nurses and nurse's aides selected through stratified sampling from multiple healthcare facilities. Data were collected using the PS Climate Scale by Kudo, along with a demographic questionnaire. Statistical analysis involved descriptive statistics, Mann-Whitney U tests, and Kruskal-Wallis tests. The findings revealed that PS climate sub-factors exhibited gender-based differences, with nursing conditions and fatigue reduction differing across various healthcare centres and wards. Overall, the study highlighted a suboptimal PS climate in the studied rehabilitation centres, emphasizing the need for interventions to improve nurses' attitudes and enhance PS in collaboration with hospital management (Alireza et al., 2019).

2.18 QSEN Competency Integration and Sustainability Best Practices

Cooper (2017) investigates the long-term feasibility of the QSEN competency project in pre-licensure nursing education. The purpose of this research is to determine whether QSEN competency principles are still taught in nursing programs. The evaluation approach for the study is divided into two components. First, an online survey was distributed to nursing education faculty members in the San Francisco Bay Area (SFBA). Second, a symposium was conducted to gather these faculty members' perspectives, ideas, and proposals. The study

findings from that most nursing schools in the SFBA region continue to advance and integrate QSEN competency principles into their curricula. This suggests that QSEN competency has had a lasting impact on nursing education in this area. The findings of this study have implications for nursing education across the SFBA region and potentially beyond. They highlight the continued importance of QSEN competency and emphasize that it remains relevant and sustainable (copper, 2017).

Another study presents an interesting perspective on the imperative need to assess the effectiveness of integrating quality and safety competencies into pre-licensure nursing education. Their study delves into the educational readiness of two cohorts of newly licensed registered nurses about the six QSEN competencies. Conducted via surveys during 2004–2005 and 2007–2008, this research uncovers a notable improvement over three years in readiness specifically concerning EBP and QI. These results not only signify advancements in the preparation of nursing students in QSEN competencies but also underscore the ongoing requirement for continuous evaluation of these crucial competencies within the nursing education framework (Djukic et al., 2019).

2.19 QSEN Competency Program Evaluation and Outcomes

A research study that addresses the application of systems thinking and the QSEN competency informatics competency to enhance the use and usability of electronic health records (EHRs) in healthcare has been conducted. To prevent patient harm and medical errors, the study highlights the urgent need to improve the use and efficacy of EHRs in healthcare. It also highlights the importance of professional development educators in educating nurses about nurse-sensitive indicators and error-prevention strategies. The study finds that systems thinking, a holistic approach that considers the

interconnectedness of components within a system, can be a valuable framework for addressing informatics competency within the QSEN competency framework (Phillip et al., 2019).

2.20 Benefits of the QSEN Competency Program

During their study, Boswell and colleagues (2021) assess the implementation and effectiveness of QSEN competencies in nursing practice and education, and they also provide an overview of how well healthcare institutions and educational programs have integrated QSEN competencies into their curricula and practices. In an acute care facility located in West Texas, a QI project was launched to ensure that new graduate nurses are performing at their best in EBP. The foundation for evaluating the comfort levels of these nurses in various proficiency areas was built upon the QSEN competencies. This project was particularly relevant as the new graduate nurses were enrolled in the acute care agency's residency program. Before the scheduled training session, a survey was administered to the participants, totalling 95 individuals, during the pre-phase of the project. This involves evaluating whether students are being adequately prepared in areas such as PCC, teamwork and collaboration, EBP, QI, safety, and informatics. The study results that professional teamwork and collaboration are key components of QSEN competency and explore how nurses work with other healthcare professionals to enhance patient care and safety (Boswell et al., 2021).

Another study that was conducted looks at how the QSEN competencies have been incorporated into nursing school to better educate graduates to provide safe and high-quality patient care. The research looks at how the QSEN competency skills might be used to create a systematic pedagogical structure for rethinking nursing courses and curriculum they provide a framework for incorporating quality and safety concepts into

future nursing education. The study emphasizes the use of different active learning modalities in course development efforts. Simulation-based teaching is stressed as a particularly effective method for applying the QSEN competence competencies. Simulation enables students to practice and assess their KSAs for each ability (Brady, 2011).

2.21 Consideration and Limits of QSEN Competency

Another study claims that nursing education makes use of human-patient simulation. The integration and limitations of the QSEN competency abilities are pertinent to this research, even if its focus is simulation in nursing education. The study examines how effectively simulation-based nursing education incorporates QSEN competency abilities. One of the limitations is that not all six QSEN competency capabilities can be effectively integrated into simulation scenarios; this is because some competencies are more amenable to handling a simulated environment than others. Resource limitations in simulation-based instruction are also considered in this work. Creating and implementing realistic simulation scenarios that meet all QSEN competency abilities necessitates significant financial and logistical resources, which may be difficult for some nursing programs. It lays the groundwork for a study comparing the efficacy of teaching tactics in regular clinical settings vs simulated patient care environments. The primary focus of the research appears to be on exploring and maybe comparing these teaching approaches to improve nursing education (Jarzemsky, 2012).

2.22 The QSEN Competency Program has the Potential to Increase KSAs

The study of engaging students in a QI/QM presentation to enhance QSEN competency concept learning discusses a teaching-learning strategy that aims to

enhance nursing students' understanding of QSEN competencies, and it emphasizes the importance of QSEN competencies, which address KSAs necessary for nursing students to become successful and competent registered nurses. The study introduces a teaching-learning strategy called Quality Indicator/Quality Measure (QI/QM) presentation. This strategy encourages students to identify clinical QI/QM issues, collect data, collaborate with their peers, apply research techniques, create presentations, and report their findings. The study found improvements in students' sub-scores related to safety and QI on the RN comprehensive Predictor exam, the study found that there is improvements were observed in the QSEN competency sections of the course specialized exam scores and the RN comprehensive Predictor exam scores. The concepts of safe, quality patient care are important aspects for improved patient outcomes and nursing is vital (Curcio, 2021).

Miller and LaFrambroise (2009) investigated students' opinions about the six QSEN competencies, knowledge, and skills by asking senior-level nursing students about their feelings regarding the integration of clinical and structured classroom courses. According to the findings, students in the intervention group thought their attitudes, knowledge, and skills were good or adequate. In this study, faculty members were also polled, and they stated that the nursing courses had a strong awareness of and integration of QSEN competencies. Combining classroom and clinical learning activities was also found to be the most successful technique for improving students' knowledge, abilities, and attitudes around QSEN competency (Miller & LaFrambroise, 2009).

2.23 QSEN Competency Elements

According to Hardie & Lioce 2015, expert facilitation is critical to the efficiency of healthcare simulation. The task of identifying and cultivating crucial competencies for simulation facilitators presents a global challenge for healthcare simulation operations. While numerous organizations and authors have outlined standards and recommendations for the development of simulation facilitators, none have consolidated and put into practice a comprehensive list of such competencies. The main results demonstrate that eight documents and 23 articles contained over 1200 assertions regarding facilitators' abilities. The assertions fell into seven groups: simulation expertise, simulation delivery skills, audience assistance, debriefing as well as evaluation capabilities, instructor characteristics, and comportment, dedication to continuous quality and safety enhancement, and personal development at all professional periods. Thirty fundamental aspects were identified and split into a total of 149 sub-parts based on research facilitating. The study looks into the critical components required for effective simulation facilitation in healthcare education. The findings demonstrate a comprehensive set of important facilitator elements, including basic talents such as strong communication skills, clinical experience, adaptability, and the capacity to create a safe learning environment. Furthermore, the study emphasizes the need for facilitators to have a strong educational background in nursing or similar healthcare disciplines, as well as effective debriefing skills, adherence to best practices in simulation education, emotional intelligence, and technical competency. These factors work together to establish a holistic framework for simulation facilitators, emphasizing the varied nature of their role in providing an ideal learning experience for healthcare students and professionals (Hardie & Lioce, 2015).

2.24 Summary

In the realm of healthcare, the quest for quality and PS is an ongoing journey, and a key driver in this effort is the QSEN competency initiative This summary summarizes the insights gathered, from a series of studies exploring various facets of QSEN's competency impact on nursing education, practice, and patient outcomes. Several studies underscore the importance of integrating QSEN competencies into nursing curricula. These competencies, including, teamwork, EBP, safety, QI, and informatics, serve as a structured framework for shaping nursing education. They equip nursing students with the essential KSAs to deliver safe and high-quality patient care. The studies emphasize that a consistent and comprehensive adoption of QSEN competencies is vital for producing well-prepared nurses who can navigate the complexities of modern healthcare.

A common thread among these studies is the pivotal role of a positive PS culture in healthcare settings. A strong safety culture is linked to improved patient outcomes and a reduced risk of adverse events. Fostering this culture through interventions such as executive rounds and team training is seen as a promising strategy. It highlights the interconnectedness of healthcare professionals, teamwork, and communication in ensuring patient safety. While QSEN competencies are widely acknowledged as essential, there is variability in how they are perceived and integrated. Nursing students may have differing levels of understanding and readiness across these competencies, suggesting the need for further assessment and revision in nursing education. Furthermore, challenges in implementing QSEN competencies persist, including barriers to curriculum redesign and faculty development.

QSEN's competency influence extends beyond national borders. Initiatives to share resources and strategies for quality and safety education transcend cultural boundaries, emphasizing the universality of these competencies. Yet, there is room for improvement in measuring the global impact of QSEN competency on healthcare practices and examining cultural implications for diversity and inclusion. In conclusion, the studies collectively affirm that QSEN competencies are integral to nursing education and practice, serving as a compass for patient-centred, safe, and effective care. They underscore the ongoing commitment to cultivate a culture of safety, enhance patient outcomes, and ensure that healthcare systems are equipped to meet the challenges of today's dynamic healthcare landscape.

Chapter Three

Methodology

3.1 Introduction

This chapter presents an overview of the research methodology used for this study. The methodology employed in this research is designed to systematically investigate and analyze the impact of the QSEN competency-based program on junior nurses' KSAs within the context of the Palestinian MOH. The chosen methodology encompasses a structured approach to ensure the reliability and validity of findings.

It includes research design, study setting, study population, sample method, inclusion criteria, exclusion criteria, data collection procedure, ethical consideration, instrument, pilot study, data analysis.

3.2 Study Design

Research methodology is considered a systematic approach, which mainly focuses on finding answers for all research inquiries and producing effective results for a specific study (Creswell, 2017). This research has a quantitative component utilizing a quasi-experimental pre-test and post-test design with two groups: an intervention group and a control group.

A quasi-experimental design is a type of research design that resembles an experimental design, but does not involve random assignment of participants to groups. This is often necessary for real-world settings, where it may be difficult or unethical to randomly assign participants to different conditions. In the quasi-experimental design employed, nurses are deliberately not randomly assigned to groups; rather, these groups are formed based on pre-existing or inherent characteristics. The study involves the definition of an intervention group, receiving a specific QSEN competency program,

and the identification of a control group that does not undergo the intervention. To establish baseline measures, a pre-test is conducted before the intervention, followed by a post-test administered after the intervention to assess the QSEN competency program impact. This structured approach allows for the examination of the intervention's effects while acknowledging the absence of random assignment in group formation.

In a quasi-experimental design, the researcher selects two groups of participants who are as similar as possible in all relevant characteristics. One group is then assigned to the intervention group, and the other group is assigned to the control group (Miller et al., 2020).

Both groups are then given a pre-test and a post-test. The pre-test measures the participants on the outcome variable(s) of interest before the intervention is implemented. The post-test measures the participants on the same outcome variable(s) after the intervention is implemented. By comparing the pre-test and post-test scores of the two groups, the researcher can determine whether the intervention had a significant effect on the outcome variable(s).

There are Several Reasons Why a Quasi-Experimental Design was chosen for the quantitative component of this study:

In this study, it was not possible to randomly assign participants to the intervention and control groups. This was because the participants were assigned to different groups based on their existing characteristics (years of experience, department). In some cases, it may be unethical or impractical to randomly assign participants to different groups. For example, if a QSEN competency intervention is aimed at improving PS practices in a specific hospital unit, it may not be feasible or ethical to randomly assign some healthcare providers to receive the intervention and

others not to. Quasi-experimental designs are often more applicable to real-world settings. Quasi-experimental designs may enhance the external validity of the study by reflecting real-world conditions more closely. This is important for translating research findings into practical applications in healthcare.

Researchers in this study show the effect of the QSEN competency program on nurses' KSAs in PCC. In this study, the researcher undertook a comparative analysis between nurses who participated in the QSEN competency program and those who did not receive the program. The primary focus was to assess the impact of the QSEN competency program on the KSAs of nurses regarding PCC. The research design aimed to investigate potential benefits by evaluating and comparing learning outcomes, KSAs related to patient-centered care, as well as assessing the level of engagement among nurses in both groups. The study sought to provide insights into the effectiveness of the QSEN competency program in enhancing the overall competence and PCC capabilities of participating nurses compared to those who did not undergo the program (Cengiz & Yoder, 2020).

3.3 Study Setting

The research was conducted in two governmental hospitals, it was selected randomly may have been based on various considerations such as the hospitals' affiliations with the Palestinian MOH, their status as a referral and educational hospitals, there is also many nurses, which facilitates the collection of samples. They are educational hospitals and are a reference for the Palestinian MOH and their diverse departments covering a range of medical specialties. These two hospitals are: The PMC hospital in Ramallah and Rafidia Hospital in Nablus.

1. **PMC**, originally named the Ramallah Governmental Hospital, is a strategically important healthcare institution in the central region of the West Bank. Renamed the PMC in 2010, PMC encompasses multiple specialized hospitals, including the Bahraini Hospital for Children, the Kuwaiti Hospital for heart and Specialized Surgeries, and the Sheikh Zayed Hospital for Emergency Care. PMC serves as a reference and teaching hospital with various departments such as pediatrics, emergency medicine, internal medicine, general surgery, orthopedics, critical care, and gynecology. The hospital has 490 beds, around 1,050 administrative and medical staff, and a dedicated nursing team of 400 (Ministry of Health Annual Report, 2021).
2. **Rafidia Hospital**, located in Nablus City, is a governmental surgical facility founded in 1976. As one of the largest healthcare institutions in the northern region of the West Bank, Rafidia Hospital specializes primarily in surgical services. With a bed capacity of 207, the hospital serves as a crucial healthcare center, providing specialized surgical treatments. In addition to its role as a provider of medical services, Rafidia Hospital functions as a teaching hospital, contributing to nursing education. The hospital employs 705 administrative and medical personnel, including 240 nurses, highlighting its commitment to delivering high-quality surgical care and fostering an environment for nursing education. The hospital's strategic positioning in Nablus city ensures accessibility to a broad population, contributing significantly to the regional healthcare infrastructure. Both hospitals are critical components of the national healthcare system and are affiliated with the Palestinian Ministry of Health, emphasizing their commitment to maintaining high-quality care standards. This diverse and comprehensive healthcare setting served as

the backdrop for evaluating the impact of the QSEN competency program on PCC and nursing competencies (Ministry of Health Annual Report, 2021).

3.4 Study Population

The study focused on registered nurses actively employed in various departments, including Internal Medicine, Pediatrics, Surgery, Intensive Care, Daily Care, and Neurosurgery departments, within the governmental hospitals of PMC in Ramallah and Rafidia hospitals in Nablus. The research sample consisted of 164 nurses, with 100 located at PMC and 64 stationed at Rafidia Hospital. PMC and Rafidia. Both hospitals play crucial roles in providing healthcare services and were chosen for their representation of different geographic regions, Ramallah and Nablus. The study was conducted with the voluntary consent of all participating nurses during the designated data collection period.

3.5 Sample Size

This study used the G*Power tool (Munro, 2005) to compute the sample size needed to identify group differences (Creswell & Báez, 2020; Polit & Beck, 2020). The power, alpha, level of significance, confidence interval, effect size, and test type a two-tail t-test with the difference of the two-independent means (two groups) determined the sample size*Power version 3.1.7.9 estimated the sample size needed for meaningful findings across groups (Munro, 2005). Using a calculated medium effect size of 0.5 based on nursing research (Polit & Beck, 2020), an alpha of 0.05, and a power of 0.8, which is recommended (the higher the power, the more subjects needed) based on the assumption of an expected difference resulted in 64 members per group for the t-test

(Munro, 2005). Expanding the sample size would increase research power and overcome attrition.

3.6 Sample Method

For this study, researchers can approach fitting sampling. A non-random, fitting sampling method was employed, and researchers strategically selected participants meeting predefined inclusion criteria and selected participants for each group based on the defined criteria in both hospitals. The selected participants were divided into two groups: an intervention group that received the QSEN competency program from PMC hospital, and a control group from Rafidia hospital that will not receive the program.

A comprehensive list of all participants, along with their respective clinical settings and specialty tracks, was created. The list included PMC Nurses (N1, N2, N100) and Rafidia Nurses (N1, N2, N64). Given the total availability of 164 participants, 64 individuals from Rafidia Hospital were purposefully selected for the control group based on predetermined inclusion criteria. Subsequently, the remaining 100 participants were chosen for the intervention group, utilizing the same inclusion criteria. This approach ensured a deliberate and systematic allocation of participants to the control and intervention groups, facilitating a comparative analysis while maintaining consistency in the selection process across both groups. Figure 2 shows the sampling method.

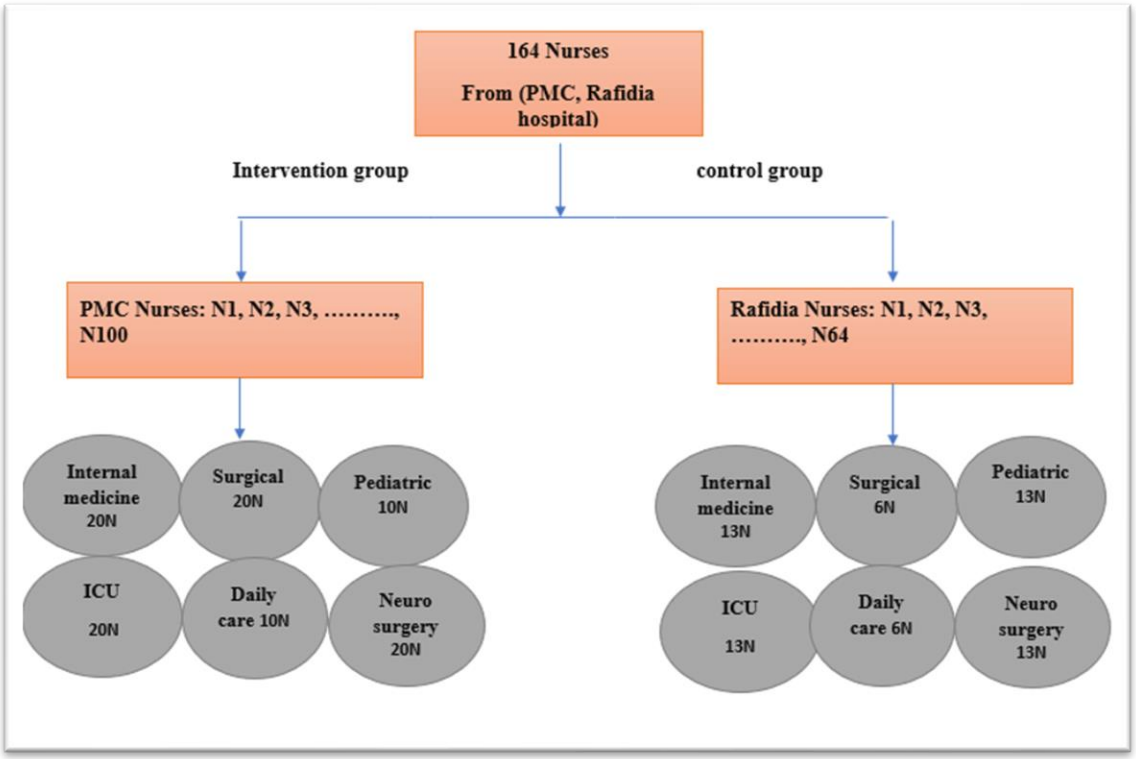

Figure 2: Quantitative Sampling Method

3.7 Inclusion Criteria

Participants are required to be registered nurses including five years or less, that is, from the beginning of work to five years of experience at the time of data collection in 2023. Those who freely agreed to participate in the study were included. They also work in one of the following departments: Internal Medicine, Surgical, Pediatric, Intensive Care Unit (ICU), Daily Care, and Neurosurgery departments. These inclusion criteria help to define the specific subset of nurses who match the study's eligibility criteria.

3.8 Exclusion Criteria

Nurses with more than five years of practical experience, midwives, nurses in other departments not included in the study sample, and nurses who declined to participate in the study were all omitted.

3.9 Ethical Considerations

All participants were asked for their informed consent. Participants were made aware of their freedom to leave the research at any time and without consequence. Participants were not named in any papers or reports emerging from the study, and all data were kept anonymous. The institutional review board (IRB) from Arab American University (appendix 1) and MOH (appendix 2) authorized the study.The researcher (Linda) has been contacted to obtain approval for use instrunent .

3.10 Data Collection Procedure

In both the PMC and Rafidia Hospital, comprehensive approval was obtained from the Ministry of Health. Interviewed hospital administrators, which determined the objectives of the study and the expected impact of the program on nursing performance QSEN competency. A meeting was also held with nursing directors to arrange appropriate lists for filling out the questionnaire, both in Rafidia, which be without the intervention of the education program, and in the complex that will receive training on the QSEN competency program. A thoughtful process for collecting samples, taking into Inclusion criteria. The nursing staff was then classified into the intervention group at the PMC or the control group at Rafidia Hospital. Five groups (20 nurses for each group) were set up at PMC to receive the QSEN competency program, which included pre-tests, a 4-hour QSEN competency intervention, and post-tests. At Rafidia Hospital, 64 nurses, in the control group, underwent pre- and post-questionnaire assessments with

a two-week interval for the control group without the intervention program. The intervention group participated in the QSEN competency training program for four hours for each group, and homogeneity testing ensured comparability between groups. All nursing staff were informed of the objectives of the study, signed a participation agreement, and could withdraw at any time, and QSEN competency -focused training sessions began in October 2023. Following the QSEN competency intervention, final assessments of nursing competencies were conducted by redistributing the questionnaire, facilitating the assessment of the impact of the program on participants. In both groups, the pre- and post-questionnaires were numbered with the same number for the same person emphasizing the systematic nature of the study implementation.

3.11 Data Collection

This study has quantitative data, so the process of data collection was as follows:

The Quantitative Component of the Study

To collect data for the quantitative component of the study, a self-completion questionnaire by two tools was used. The questionnaire was specifically developed to collect relevant information on the participants' demographic data as well as their QSEN competency results from the program. It included a variety of questions to assess nurses' competencies in a range of important areas, including patient-centred care, Teamwork, EBP, QI, Safety, and Informatics, also to assess nurses' KSAs regarding patient-centred care. The questionnaire consisted of structured questions with defined response formats, making it easier for participants to complete. Because of the organized style, participants were able to provide explicit and measurable responses, which improved the quantitative analysis process. The questionnaire was given to both the intervention

group, which received the QSEN competency program, and the control group, which did not get the program.

Through a comparative analysis of responses from the two distinct groups, the efficacy of the QSEN competency program was systematically evaluated. The assessment of the QSEN competency program's potential impact was realized through the administration of a structured questionnaire to the nursing participants on two occasions first, before the initiation of the intervention program, and subsequently after its completion. This methodological approach, encompassing pre- and post-intervention evaluations, facilitated a careful examination of participants' responses, elucidating discernible changes in their KSAs about PCC consequent to the QSEN competency program. The structured pre- and post-intervention assessment framework provided a robust foundation for comprehensively evaluating the program's effectiveness and its influence on participants' perceptions and competencies in PCC. It was designed from the following instruments:

In the quantitative component of this quasi-experimental research, data were systematically collected using two carefully designed self-completion questionnaires. The questionnaire was specifically designed to collect relevant information regarding the demographic data of the participants. In general, the questionnaires included a set of questions targeting different aspects such as KSAs regarding PCC. The questionnaire consists of organized questions using a unified response form, which made it easier for participants to complete them easily. The structured format enabled participants to provide specific and measurable responses, which enhanced the quantitative analysis process. The structured format enabled participants to provide specific and measurable responses, which enhanced the process of quantitative analysis. Implementation of data

collection for two groups (intervention & control) started on 25/01/2024 and completed on 10/02/2024.

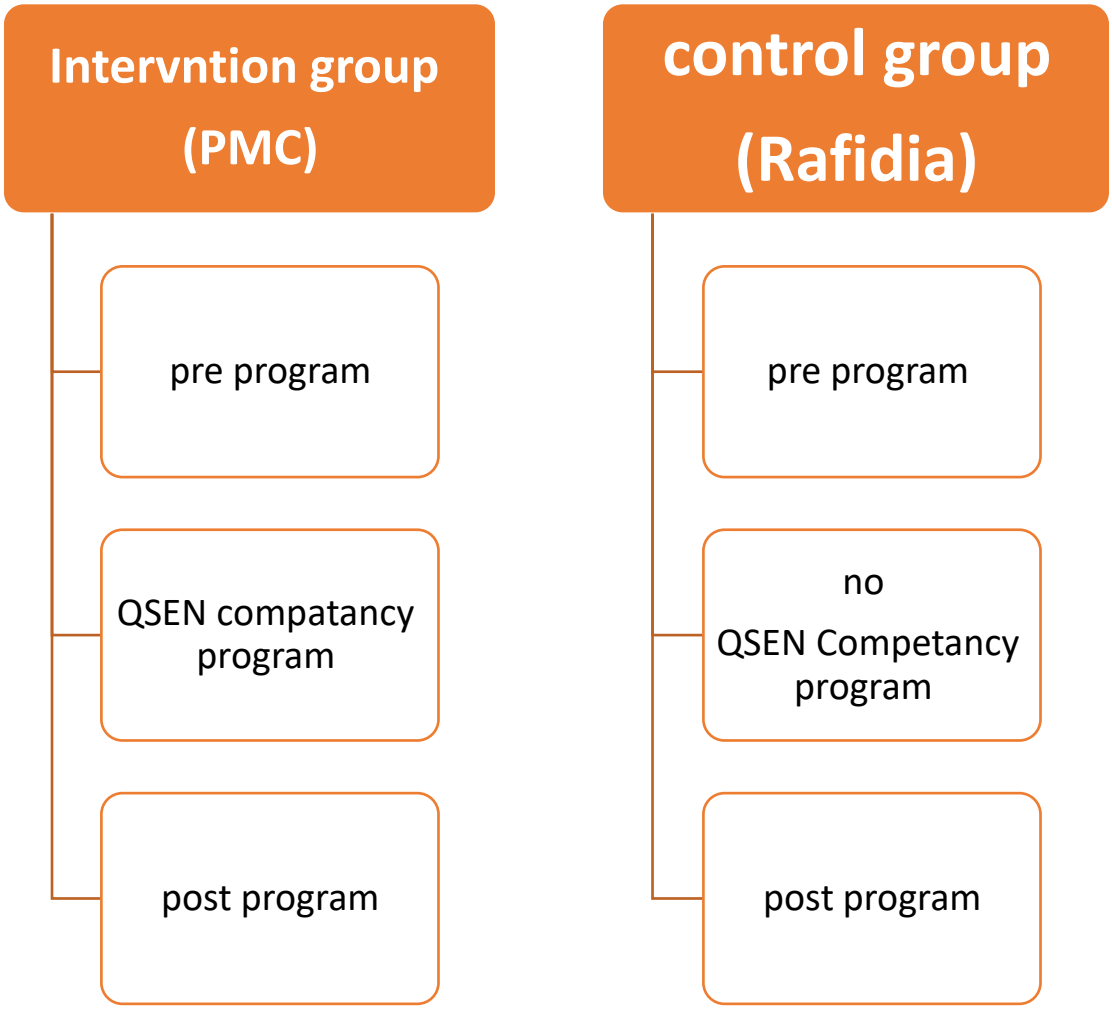

Figure 3: Intervention & Control Group (PRE - POST QSEN Program)

Instrument

To comprehensively evaluate the nursing workforce and their performance in patient-centred care, demographic data were collected to capture key attributes such as gender, marital status, higher education, years of practical experience. This demographic information serves as a foundation for understanding the diverse backgrounds and experiences of the participating nurses. Additionally, the study employed two robust instruments, the Clinical Performance Evaluation Questionnaire (CPEQ) (appendix 3) (Ref,…) and the PCC Scale (KSAI-PCCS) (appendix 4) (Ref,,,), designed to assess and measure the nurses' clinical competence and PCC skills. These instruments provide a structured framework for evaluating the nurses' KSAs in delivering PCC, offering valuable insights into their proficiency and effectiveness in healthcare settings.

The study questionnaire was applied to both the intervention group that received the QSEN competency educational program and the control group that did not receive the educational program.

Part One: Social Demographic

This includes six questions: The nurse's age, gender, marital status, higher education (master’s degree or high diploma), years of experience, and the name of the university graduated from.

These are the two instruments that were used in the study:

Part Two: Clinical Performance Evaluation Questionnaire (CPEQ):

The Clinical Performance Evaluation Questionnaire (CPEQ) (Hilde et al.,2012). The CPEQ is a tool used to measure the clinical performance of healthcare professionals. It is a self-administered questionnaire comprising 32 items divided into

six domains, including PCC items 8 items, teamwork 7 items, EBP 2 QI items 3 items, safety 6 items, and informatics 6 items. Cronbach's alpha coefficient was between 0.77 and 0.90. The Cronbach's alpha coefficients were as follows:0.87 for patient-centered care, 0.86 for teamwork and collaboration,0.77 for EBP, 0.81 for quality improvement, 0.79for safety, and 0.90 for informatics (Tarhan& Yıldırım2022).

The item pool of the scale was created with the learning outcomes within the scope of the "QSEN" project in the United States of America. After content validity, the total score on the CPEQ is calculated by summing the scores on the six domains. The higher the score, the better the clinical performance. Grading system in this instrument, Satisfactory (S): Meets all expectations for the competency Pass: Satisfactory grades in all six domains. Needs Improvement (NI): Partially meets expectations for the competency and requires remedial training, and Unsatisfactory (U) indicates significant intervention or potential course repeat. The total score and domain averages are calculated by summing and dividing individual item scores within each category. This approach combines overall performance with detailed insights into specific areas for improvement.

Grading System: need to assign specific numerical values to each category ("Satisfactory", "Needs Improvement", and "Unsatisfactory") within each domain to calculate a final score for each nurse based on desired grading system, assign the following Rating levels for each item

- Satisfactory (S): 3 points
- Needs Improvement (NI): 2 points
- Unsatisfactory (U): 1 point

Score Ranges:

Rating Level	Points	Score Range	Meaning
Satisfactory (S)	3	above 87	Strong performance
Needs Improvement (NI)	2	77-86	Continuous improvement needed
Unsatisfactory (U)	1	0-76	Failed

Participant must obtain a 77 or above at the Final evaluation post (QSEN) Competency program intervention Course.

The CPEQ measures six domains of clinical performance:

1.1 Patient-Centered Care (PCC): (8 items) Assesses the nurse's ability to integrate patient preferences and values into care decisions, fostering interaction, active listening, patient involvement, and respect for patient autonomy.

1.2. Teamwork and Collaboration: (7 items) Evaluates the nurse's by perception on communication effectiveness with other healthcare professionals, ensuring clarity, conciseness, and effective information exchange within the team.

1.3 Evidence-Based Practice (EBP): (2 items) Measures the nurse's by perception skills in finding, evaluating, and applying research evidence to patient care, emphasizing adherence to protocols and effective collaboration based on best practices.

1.4 Quality Improvement (QI): (3 items) Assesses by perception the nurse's ability to identify areas for improvement in patient care, leveraging scenarios to pinpoint opportunities and develop plans for enhancing quality.

1.5 Safety: (6 items) Evaluates by perception the nurse's proactive identification and active mitigation of PS risks throughout clinical practice.

1.6 Informatics: (6 items) Assesses by perception the nurse's competence in conducting and documenting patient assessments within the electronic health record system,

emphasizing seamless integration of technology for optimal care, communication, data management, and ethical data handling.

Part Three: **Patient-Centered Care Scale (KSAI-PCCS)**

The PCC Scale (KSAI-PCCS). Developed by Sherwood and Barn Steiner in 2012, the KSAI-PCCS is a comprehensive tool designed to assess nurses' patient-centered KSAs. The KSAI-PCCS is a 54-item instrument with three subscales: Knowledge (19 items), Skills (17 items), and Attitudes (18 items)—KSA. The instrument subjectively measures the three domains of PCC competencies for nursing practice.

This instrument examines nurse's KSAs related to patient-centered care, determine what aspects of PCC education need to be improved. Examine any relationships that exist between the views of nurses and the real PCC practices to Analyze how well nurses' initiatives to support PCC are working. Procedures/Study Design Measurement is an important concern across broad ranges of social research (DeVillis, 2003), and is required to quantify a specific phenomenon. Measurement of the PCC phenomenon and associated competencies will provide nurse educators with insight into nurse's perspectives. The data may illustrate whether the PCC KSAs of nursing translate to improved patient outcomes at the bedside.

DeVillis (2003) describes scale development level of measurement "A system of classifying measurements according to the nature of the measurement and the type of permissible mathematical operations, the levels are nominal, ordinal, interval, and ratio" (Polit & Beck, 2008, p. 757).

In this case, a Likert-type scale format was selected. Likert-type scales require self-report responses. Self-report is a method of collecting data that involves direct report of information by the person who is being studied (Polit & Beck, 2008),

The instrument was using a test-retest method to establish preliminary reliability and validity. Validity was supported through expert review panel processes. Instrument reliability was established with Cronbach's alpha of .85 to .92 (pre to posttest; n = 12) and .96 to .97 (pre to posttest; n = 21) (Esslin, 2016). Each item is rated on 5 a Likert scale, ranging from 0 (never) to 5 (very frequently). To calculate a nurse's total PCC score on the KSAI-PCCS, researchers sum the scores across the three subscales. A higher total score reflects more patient-centeredness in a nurse's KSAs. The total lower score is 0, indicating that if a nurse selects "never" for all items, the lowest possible total score is 0. This emphasizes the potential range of scores and allows for identifying variations in PCC among nurses.

Modified frequency scale response anchors of "never to very frequently" were selected for application of optimal fit with the survey items

The three subscales Domains of this instrument:

1.1 Knowledge Domain: This domain delves deep into nurses' grasp of PCC(PCC) and its integration with diverse backgrounds. It uses a 19-item assessment with a Likert scale ("Never" to "Very Frequently") to gauge nurses' knowledge, communication, and support skills in PCC.

It also included one open-ended question for the nurse to write in three concrete examples in which clinical knowledge and educational knowledge were combined.

2.2 Skills Domain: In this domain, nurses' proficiency in providing PCC with sensitivity to the diversity of human experiences is assessed through a comprehensive

evaluation using the Skills subscale of the KSAI-PCCS tool, consisting of 17 items. The assessment aims to measure nurses' practical skills and abilities in obtaining patient preferences and needs, integrating them into care plans, and utilizing them for ongoing care evaluation. It also encompasses evaluating communication skills in conveying patient values to the healthcare team and assessing patients' pain, physical comfort, and emotional comfort levels.

It also included one open-ended question for the nurse to write in three concrete examples in which clinical skills and educational knowledge were combined.

1.2 Attitudes Domain: This domain explores nurses' attitudes and values regarding PCC in a diverse setting. Through 18 Likert-scale items ("Never" to "Very Frequently"), it assesses their Empathy and respect, Lifelong learning, Self-awareness, Patient partnership and Ethical navigation.

It also included one open-ended question for the nurse to write in three concrete examples in which clinical attitude and educational knowledge were combined.

Scale Response Anchors: The research adopted a 5-point Likert scale with modified frequency anchors ("never" to "very frequently") to assess nurses' perceptions of PCC KSAs, following expert and nurse's consensus.

Calculating Percentages: Total Responses: Gather the total number of responses for each of the 54 items (19 knowledge + 17 skills + 18 attitudes).

Response Counts: Count the number of respondents choosing each response option (Never, Very Rarely, Rarely, Occasionally, Frequently, Very Frequently) for each item. Percentage Calculations: For each item, divide the response count for each option by the total number of responses and multiply by 100%. This will give you the percentage of respondents who chose each option.

Rating Percentages of Knowledge

High knowledge percentages indicating respondents possess strong grasp of the knowledge concepts (80-100% "Frequently" and "Very Frequently"). Middle: Percentages suggesting moderate understanding of the knowledge concepts (40-60% "Occasionally" and "Frequently").

Low percentages indicating limited knowledge or significant gaps in understanding (0-20% "Never" and "Very Rarely").

Rating Percentages of Skills

High skills percentages signifying confident and proficient performance of the skills (e.g., 70-100% "Frequently" and "Very Frequently"). Middle percentages suggesting adequate skill levels but potential for improvement (e.g., 30-60% "Occasionally" and "Frequently"). Low percentages indicating infrequent or struggling performance with the skills (e.g., 0-20% "Never" and "Very Rarely").

Rating Percentages of

Attitudes

High attitudes percentages showing strong agreement with positive attitudes or values (e.g., 80-100% " Frequently" and "Very Frequently"). Middle percentages suggesting somewhat neutral or mixed attitudes (e.g., 40-60% "Neutral" or "Somewhat Agree/Disagree"). Low percentages indicating disagreement or negative attitudes towards the values or principles (e.g., 0-20% "Strongly Disagree" and "Disagree").

3.12 Interventional Tool

The QSEN competency program" serves as a key component of the research study. This tool is designed to implement the QSEN competency program, which focuses on enhancing the knowledge and skills of nurses in the areas of quality and

safety in healthcare. The tool includes structured interventions, educational resources, and training modules aimed at improving nurses' abilities to provide high-quality, safe patient care. Through the QSEN competency program, participants receive targeted education and training, ultimately enhancing their competence in these critical areas. This intervention tool is instrumental in the research study, as it assesses the impact of the QSEN competency program on nurses' performance and their ability to deliver quality and safe healthcare services.

3.13 QSEN Competency Design for Nursing in Hospitals.

The QSEN competency initiative is a national initiative that aims to transform nursing education by integrating six core competencies:

PCC: This competency focuses on providing care that is tailored to the individual needs and preferences of patients. Nurses should be able to listen to patients, understand their concerns, and involve them in decision-making.

Teamwork and Collaboration: This competency focuses on working effectively with other healthcare professionals to provide safe and high-quality care. Nurses should be able to communicate effectively, collaborate on treatment plans, and resolve conflicts.

EBP: This competency focuses on using research evidence to guide clinical practice. Nurses should be able to critically evaluate research findings, apply them to their practice, and communicate their findings to others.

QI: This competency focuses on improving the quality of care through continuous improvement initiatives. Nurses should be able to identify problems, develop and implement solutions, and measure the impact of their interventions.

Safety: This competency focuses on preventing patient harm. Nurses should be able to identify and mitigate safety risks, report unsafe practices, and provide safe care.

Informatics: This competency focuses on using technology to improve patient care. Nurses should be able to use electronic health records, communicate electronically with other healthcare professionals, and use other technology tools to enhance their practice

3.14 QSEN Competency Education Program

This QSEN competency program sophisticated program, extracted from QSEN competency institutions, the WHO PS Assessment Manual, and the literary work authored by Christie in 2014, titled "Introduction to QSEN, Core Competencies," intricately strives to elevate the standards of nursing education and, concomitantly, enhance patient care. The QSEN competency program modules created by the QSEN competency institutions aim to enhance nursing education and patient care by providing a comprehensive understanding of quality and safety in healthcare. The modules cover essential topics, including the critical role of nurses, the imperative of quality and safety, and the enhancement of nursing competence in these areas. Through lectures, interactive discussions, case study analysis, and application tools for patient safety, participants actively engage in learning. The program is flexible, allowing customization to meet the specific needs and goals of both the research and participants. Learning outcomes in the QSEN competency model align with Bloom's Taxonomy, encompassing various cognitive skill levels, and focus on six competencies: patient-centered care, teamwork and collaboration, EBP, QI, safety, and informatics (Dolansky & Moore, 2013).

There are Six Models by the QSEN Competency Institutions:

This learning approach developed by QSEN competency institutions might also be effective for nursing and patient care in hospitals. It undoubtedly plays a significant part in the development of QI methods given to patients - centre -care.

Model One PCC: Providing care that is respectful of and responsive to individual patient preferences, needs, and values, ensuring that patient values guide all clinical decisions.

Model Tow: Teamwork and Collaboration: Functioning effectively within nursing and inter professional teams, fostering open communication, mutual respect, and shared decision-making to achieve quality patient care.

Model Three: EBP: Integrating the best current evidence with clinical expertise and patient/family preferences and values to provide high-quality, safe, and effective patient care.

Model Four: QI: Using data to monitor the outcomes of care processes and using improvement methods to design and test changes to continuously improve the quality and safety of healthcare systems.

Model Five Safety: Minimizing the risk of harm to patients and providers through both system effectiveness and individual performance.

Model Six: Informatics: Using information and technology to communicate, manage knowledge, mitigate error, and support decision-making.

These competencies form the foundation for nursing education and practice, guiding nurses to deliver safe, effective, and PCC in an inter professional context. The researcher used a variety of education methods including a PowerPoint presentation lecture, interactive discussions, case study analysis, and feedback sessions, filling

application tools for PS to ensure active engagement and learning (surgical safety checklist, Incident reporting form, Root cause analysis form, Morse fall scale form, Effective communication SBAR FORM. To tailor the content to the specific needs and goals of the research and participants.

3.15 QSEN Competency Program Activity Module

Activity: model of PCC Scenario:

Objective: To help nursing to understand the concept of patient-centered care

To practice PCC skills, to identify challenges and strategies for providing patient-centered care.

Introduction (5 minutes)

Begin by asking nurses to define patient-centered care. Discuss the importance of PCC in nursing practice. Explain that PCC is an approach to care that focuses on the individual needs, preferences, and values of the patient.

Scenario Presentation (10 minutes)

Ask each nurse to read the scenario and discuss the following questions:

What are the patient's needs, preferences, and values?

What are the challenges to providing PCC in this scenario?

What strategies can be used to provide PCC in this scenario?

Nursing Discussion (10 minutes): Bring the class back together for discussion. Ask each nurse to share their answers to the discussion questions. Facilitate a discussion about the challenges and strategies for providing patient-centered care.

Patient Scenario: Patient: Mr. Smith is a 75-year-old man who has been admitted to the hospital with a diagnosis of pneumonia. He is a retired mechanic and lives alone. He is independent and has always been in good health.

Needs: Mr. Smith needs to be treated for his pneumonia. He needs to be able to communicate effectively with his healthcare providers. He needs to feel comfortable and confident in his care.

Preferences: Mr. Smith prefers to be called by his first name. He is comfortable talking about his health and prefers to make decisions about his care.

He wants to be able to eat his meals and get dressed.

Values: Mr. Smith values his independence and wants to be as active as possible. He is a religious man and values his faith. He is a family man and wants to stay connected with his children and grandchildren.

Challenges: Mr. Smith is new to the hospital and may not be familiar with the environment or the routines. He may be feeling anxious and scared about his illness.

He may have difficulty communicating due to his age or hearing loss.

Strategies and disruption: Introduce yourself to Mr. Smith and use his first name. Explain the care plan to Mr. Smith and involve him in decision-making. Speak slowly and clearly and use simple language. Provide Mr. Smith with information about his illness and his treatment options. Respect Mr. Smith's religious and cultural beliefs. Encourage Mr. Smith to stay active and participate in his care. Help Mr. Smith to stay connected with his family and friends.

Conclusion (5 minutes): Summarize the key points of the activity. Emphasize the importance of PCC in nursing practice. Encourage nurses to continue to practice PCC skills in their clinical practice.

Activity: model, Teamwork, and Collaboration

Objective: To help nursing to understand the importance of teamwork and collaboration in nursing practice. To identify the essential elements of effective teamwork and

collaboration. To practice teamwork and collaboration skills in a simulated environment.

Introduction (5 minutes)

Begin by asking nurses to define teamwork and collaboration. Discuss the importance of teamwork and collaboration in nursing practice. Explain that teamwork and collaboration are essential for providing safe, high-quality care.

Scenario Assignment (5 minutes):

Provide nurses with a handout containing a scenario description. Ask nurses to read their scenarios and identify the key challenges and opportunities for teamwork and collaboration.

Simulation (10 minutes): Ask nurses to focus on demonstrating effective teamwork and collaboration skills. Provide feedback as needed.

Discussion (10 minutes): Bring the class back together for a nurse's discussion. Ask nurses to share their experiences and insights from the simulation. Facilitate a discussion about the key challenges and strategies for effective teamwork and collaboration.

Scenario Description: Scenario 1: Patient Transition

A 65-year-old patient is being transferred from the intensive care unit (ICU) to the medical-surgical unit. The ICU nurse, the medical-surgical nurse, and the patient's family are all involved in the transfer process.

Challenges: Ensuring that all information about the patient's condition is communicated effectively between the ICU and medical-surgical nurses.

Addressing the patient's and family's concerns and questions about the transfer.

Coordinating the transfer process smoothly and efficiently.

Opportunities for teamwork and collaboration: Effective communication between nurses, Clear handoff of patient information, Shared responsibility for patient care

Collaborative involvement of the patient and family, in the face of changing circumstances.

Conclusion (5 minutes)

Summarize the key points of the activity. Emphasize the importance of teamwork and collaboration in nursing practice. Encourage nurses to continue to practice teamwork and collaboration skills in their clinical practice.

Models EBP:

Objective: To introduce nursing to the concept of EBP, to provide nurses with hands-on experience in applying the EBP process to critically evaluate research evidence and apply it to nursing practice.

Introduction (5minutes)

Begin by asking nurses to define EBP. Discuss the importance of EBP in nursing practice. Explain the EBP process, which involves asking a clinical question, searching for evidence, appraising the evidence, applying the evidence, and evaluating the outcomes.

Case Study Presentation (10 minutes): Case Study Scenario: Postpartum Haemorrhage.

Clinical Question:

What is the most effective intervention for preventing postpartum haemorrhage (PPH) in women with high-risk factors?

Background: PPH is a serious complication of childbirth that can occur within the first 24 hours after delivery. It is a leading cause of maternal mortality worldwide. Women

with certain risk factors, such as multiple pregnancies, previous PPH, or preeclampsia, are at increased risk of developing PPH.

Search for Evidence: A group of nurses searched for relevant research evidence using PubMed, CINAHL, and Cochrane Library. Two of the research compared different interventions for preventing PPH in women with high-risk factors.

Application of Evidence: The two high- articles from Pup Med and Google Scholar found that the most effective intervention for preventing PPH in women with high-risk factors was the use of prophylactic misoprostol. Misoprostol is a medication that contracts the uterus and helps to prevent excessive bleeding (Alksnite et al., 2020).

Evaluation of Outcomes: The nurses implemented the use of prophylactic misoprostol for women with high-risk factors at their hospital. They found that the rate of PPH decreased significantly after the implementation of this intervention (Hofmeyr et al., 2009). Ask nurses to read the case study and identify the clinical question that needs to be addressed. Evidence Search and Appraisal (30 minutes) Provide nurses with access to computers or tablets with internet connectivity. Ask the nurse to search for relevant research evidence using online databases and other resources. Ask nurses to appraise the quality of the research evidence they have found using critical appraisal tools.

3.16 Model Four QI

Introduction (10 minutes): Briefly introduce the concept of QI and its significance in healthcare. Discuss the role of nurses in contributing to QI initiatives.

Interactive QI Tools (15 minutes): Introduce common QI tools such as PDSA cycles. Demonstrate how these tools can be applied to the case study.

Application Exercise (15 minutes): Ask the nurse to choose a PDSA cycle QI tool and apply it to the case study. Discuss the advantages and challenges of using different tools.

Conclusion and Reflection (10 minutes): Summarize key QI principles discussed during the session. Ask participants to reflect on how they can apply QI concepts in their daily practice.

A case study using the Plan-Do-Check-Act (PDCA) cycle in the context of QI.

Case Study: Improving Hand Hygiene Compliance in a Hospital Setting

Background: In a large hospital, there is a concern about inconsistent hand hygiene compliance among healthcare workers, leading to an increased risk of healthcare-associated infections. The hospital administration recognizes the need for a QI initiative to enhance hand hygiene practices and reduce the incidence of infections.

Plan Phase: Objective: Develop a comprehensive plan to improve hand hygiene compliance among healthcare workers.

Assessment: Conduct a baseline assessment of current hand hygiene practices.

Identify areas with the lowest compliance rates.

Goal Setting: Set a specific and measurable goal, e.g., increase hand hygiene compliance by 20% within three months.

Intervention Planning: Develop targeted educational programs on the importance of hand hygiene. Implement visual reminders and cues in critical areas. Provide easy access to hand sanitizers and soap dispensers.

Do Phase: Objective: Implement the planned interventions.

Education and Training: Conduct mandatory training sessions for all healthcare staff on proper hand hygiene techniques. Distribute educational materials emphasizing the impact of hand hygiene on patient safety.

Implementation of Visual Cues: Install posters and signs in strategic locations reminding healthcare workers to practice hand hygiene. Place hand sanitizer stations at entrances, exits, and near patient rooms.

Regular Communication: Establish regular communication channels to reinforce the importance of hand hygiene. Encourage a culture of accountability among healthcare workers.

Check Phase: Objective: Assess the effectiveness of the implemented interventions.

Data Collection: Collect data on hand hygiene compliance regularly. Analyze the data to identify trends and areas for improvement. Feedback Mechanism: Implement a system for receiving feedback from healthcare workers regarding the effectiveness of interventions. Conduct periodic surveys to gauge staff perceptions.

Act Phase: Objective: Based on assessment results, adjust and refine the interventions for sustained improvement.

Continuous Improvement: Review data regularly to identify persistent issues or emerging trends. Modify interventions based on feedback and ongoing assessment results. Recognition and Rewards: Implement a recognition system to acknowledge departments or individuals with consistently high hand hygiene compliance.

Consider providing incentives or rewards to encourage sustained compliance.

Expected Outcomes: Improved hand hygiene compliance among healthcare workers.

Reduction in healthcare-associated infections. Establishment of a culture that prioritizes and values hand hygiene.

This case study outlines a hypothetical scenario where the PDCA cycle is applied to enhance hand hygiene practices in a hospital setting. It demonstrates how the iterative nature of PDCA allows for continuous improvement and adaptation based on real-time feedback and data analysis.

3.17 Model Five Safety:

Objective: To enhance nursing nurses' understanding of the importance of the WHO Surgical Safety Checklist (SSC) in preventing surgical errors and improving patient outcomes.

Materials: the WHO SSC (Ebeck, 2022).

SSC Procedure (WHO):

Introduction (5 minutes) Begin by discussing the importance of PS in surgical care. Highlight the prevalence of surgical errors and their potential consequences, such as infection, disability, and even death.

Overview of the WHO SSC (10 minutes)

Introduce the WHO SSC as a standardized tool designed to improve surgical safety and reduce the risk of preventable errors. Explain the three main components of the SSC: sign-in, time-out, and sign-out. Emphasize the importance of teamwork and communication in implementing the SSC effectively.

The WHO SSC is a standardized tool designed to improve surgical safety and reduce the risk of preventable errors. It is a comprehensive checklist that covers three main phases of surgery:

Case Study Presentation SSC application (15 minutes)

Sign-in: This phase occurs before anaesthesia is administered and focuses on confirming the patient's identity, procedure, and surgical site. It also involves checking for allergies, medications, and any potential risk factors.

Time-out: This phase occurs just before the incision is made and serves as a final confirmation of the patient, procedure, and surgical site. It also involves verifying that all necessary equipment and personnel are present and that the patient is properly positioned.

Sign-out: This phase occurs after the surgery is complete and before the patient leaves the operating room. It involves counting all instruments, sponges, and needles to ensure none have been left inside the patient. It also involves checking the patient's condition and confirming the surgical site dressing.

The SSC has been shown to: Reduce surgical complications by up to 50%

Decrease mortality rates by up to 60% Improve communication and teamwork among surgical teams The SSC is a valuable tool for improving surgical safety and should be used in all surgical procedures.

Here are the specific items included in the WHO SSC:

Sign-in: Confirm the patient's identity Confirm the procedure to be performed

Confirm the surgical site Check for allergies Review the patient's medications

Identify any potential risk factors.

Time-out: Confirm the patient's identity, confirm the procedure to be performed

Confirm the surgical site Verify that all necessary equipment and personnel are present

Confirm that the patient is properly positioned.

Sign-out: Count all instruments Count all sponges Count all needles

Check the patient's condition Confirm the surgical site dressing

The SSC is a simple and effective tool that can help to improve surgical safety. It is important that all surgical teams are trained in the use of the SSC and that it is used consistently for all surgical procedures.

3.18 Models Six Informatics:

Activity: Enhancing Patient Care through the Application of Nursing Informatics

Activity: Enhancing Patient Care through the Application of Nursing Informatics

Objective: To enhance nursing understanding of nursing informatics and it's its potential to improve patient care.

Procedure: Introduction (5 minutes) Begin by discussing the role of technology in healthcare. Introduce nursing informatics as a specialized field that combines nursing expertise with information science and technology.

Overview of Nursing Informatics (5 minutes) Explain the core concepts of nursing informatics, including Nursing information systems (NIS) and Electronic health records (EHRs) Data analytics Highlight the potential benefits of nursing informatics for patient care, including Improved PS and Enhanced patient outcomes Increased efficiency and productivity Improved communication and collaboration Personalized care.

Case Study Presentation (10 minutes): Distribute the case study handout to each nurse read the case study aloud to the class. Ask nurses to identify the challenges faced by the nurses in the case study and how nursing informatics could be used to address those challenges.

Case Study: Medication Errors, A busy hospital ward is experiencing a high rate of medication errors. Nurses are often overworked and understaffed, leading to mistakes in medication administration. Additionally, the hospital's EHR system is outdated and

difficult to use, making it difficult for nurses to access accurate and up-to-date patient information.

Discussion (5minutes) after reading the case study, lead a discussion with students about the following questions: What are the potential causes of medication errors in this case study? How nursing informatics could be used to prevent medication errors? What specific informatics tools and technologies could be implemented to address the challenges faced by the nurses in this case study?

Conclusion (5 minutes) Summarize the key points of the activity. Emphasize the importance of nursing informatics in improving patient care and the role of nurses as leaders in informatics initiatives.

Table 1: Course Education (Duration 4 Houres)

Topic of QSEN Competency Education Program	Method of learning	Time
Session 1: introduction to QSEN competency program Brief Introduction to the QSEN competency Program Importance of Quality and Safety in Nursing. The vital role of nurses in healthcare. Ensuring Safe and High-Quality Patient Care. Introduction to Quality and Safety. Discussion of the impact of quality and safety on patient outcomes. Patient safety.	Presentation &discussion	(10minutes)
Session 2: The purpose of Quality and QSEN Competency. Important of QSEN Competency How QSEN Competency influences my practice, Staff problem-solve as a team, Staff focus on unit goals collectively, Staff reach an intervention and put it into practice.	Presentation &discussion	10 minutes
Overview of PS and quality of care of QSEN program, Quality and safety in high –		10 minutes

reliability organization PS Benchmarking quality performance Tools of quality improvement The future role of registered nurses in PS and quality		
Session 3: Development of the QSEN competency program, QSEN competency was created in 2005 by Linda Cronenwett, PhD, RN, FAAN, and a team of quality and safety professionals (Disch, 2012). The Robert Wood Johnson Foundation, the nation's biggest charity devoted to enhancing health care, then provided funding for QSEN competency (QSEN, 2012). • Every one of their six skills are a learning target for nursing graduates and pre-licensure students (QSEN, 2012).	Presentation &discussion	5minites
Session4: Models of QSEN Competency Model one PCC: definition, understanding the importance of PCC. What can the nurses do as individuals to help meet the PCC goals? Patients' values, religion, culture, and individual needs must be assessed. Communication with other caregivers regarding individual patient needs. Allow the family and the patient time to ask questions, time to visit with family, and provide emotional support as needed. Recognize the patient or designee as the source of control and full partner in providing compassionate and coordinated care based on respect for patient's preferences, values, and needs" (QSEN, 2012). Provide information on medications and disease processes to keep the patient informed. Keep patient informed on scheduled procedures, blood draws, and testing that is to be done.	-Presentation 5 minutes. -Scenario for Patient interactions 10 minutes. - Discussion (10 minutes). - 4. Conclusion (5 minutes)	30 minutes

Models tow: Teamwork Collaboration: Function effectively within nursing and inter-professional teams, fostering open communication, mutual respect, and shared decision-making to achieve quality patient care" (QSEN, 2012). The significance of interdisciplinary teamwork in healthcare. Effective communication within the healthcare team. Encourage participants to reflect on their experiences. Teach the nursing how to use the KSAs needed for teamwork and collaboration to improve quality and safety in their practice as nursing professionals (Disch, 2012).	Introduction presentation (5 minutes) Scenario Assignment (5 minutes): Simulation (10 minutes): Discussion (5minutes) Conclusion (5 minutes)	25 minutes
Models three EBP is the integration of clinical expertise, patient values, and the best research evidence into the decision-making process for patient care. The evidence alone does not decide for you; however, it can help support the patient care process. The full collaboration of these three components into clinical decisions improves the opportunity for optimal clinical outcomes and quality of life. EBP requires new skills of the health care professional, including effective literature searching and the use of formal rules of evidence in evaluating the literature.	introduction (5minute) Study Presentation (10 minutes) Evidence Application (10 minutes) Discussion (5minutes) Conclusion (5 minutes): Clinical Question: Search for Evidence: two articles. Application of Evidence from Articles. Evaluation of Outcomes	25minutes
Model Four: QI Definition: "Use data to monitor the outcomes of care processes and use improvement methods to design and test changes to continuously improve the quality and safety of health care systems." (QSEN, 2012). QSEN competency standards for QI give healthcare professionals a rule of measurement against which we can judge our	Presentation 5 minutes. -Scenario for Patient interactions 10 minutes. - Discussion (10 minutes). - 4. Conclusion (5 minutes)	30 minutes

acquirement of knowledge and how we choose to put that knowledge to use Tools of quality improvement		
Models five Safety Definition: “Minimizes risk of harm to patients and providers through both system effectiveness and individual performance” (QSEN, 2012). Safety precautions go beyond the six rights of medication administration, fall precautions, and call lights within reach. Discuss safety practices, potential risks, and hazards in healthcare settings. Present techniques for error prevention and safety promotion. Are nurses encouraged to share their mistakes or near misses, or are they afraid of getting reprimanded? Nurses should be encouraged to share openly about errors because everyone can learn and improve from that mistake (Durham, & Sherwood, 2008). Provide a case study that involves adverse events or near misses, and a SSC, Ask participants to analyze the case study and suggest actions to prevent similar incidents. Q&A and Summary.	Presentation 5 minutes. -Scenario for Patient interactions 10 minutes. -Group Discussion (10 minutes). - 4. Conclusion (5 minutes)	30 minutes
Models six Informatics. Definition: "Use information and technology to communicate, manage knowledge, mitigate error, and support decision making” (QSEN, 2012). Bedside computer charting, and barcode scanning can assist in keeping information up to date and in real-time (Durham, & Sherwood, 2008). The module explores how innovations in health information technology have changed our work with nursing students in classroom, clinical, and lab settings. Strategies to integrate informatics	Introduction (5 minutes) Overview of Nursing Informatics(5minutes) Case Study Presentation (10minutes) Case Study: Medication Errors Discussion (10 minutes) Conclusion (5 minutes)	30 minutes

content across these settings are suggested, along with key resources for further information. Open the floor for questions and answers. Summarize key points and takeaways from the sessions. Assessment and Feedback (15 minutes) Collect feedback on the program content, delivery, and any areas that may need improvement.		
Session7: Examples of PS forms: •PS Incidence Report •Root cause analysis •Morse scale •SSC •Effective communication (SBAR) • PDSA	Activity Forms filling	30 min Each form took 5 mint

3.19 Conducting a Pilot Study

A pilot study was done before the main data-gathering phase to ensure the questionnaire's reliability and validity. Pilot research was required while studying a novel intervention such as the QSEN competency program in nursing homes. It enabled us to assess feasibility, fine-tune the methodology and data collection tools, select sample size, test the intervention, fine-tune the data analysis strategy, and address ethical concerns. The researcher supported the seamless implementation of the main study by analyzing the feasibility of the research plan, finding problems, and making required revisions. Pilot studies also helped estimate the required sample size for statistical power, adjusted the intervention design, refined data analysis methodologies, and gathered participant comments for improvement. A pilot study also improves the

rigor and validity of the main study, resulting in more robust and trustworthy findings (Hassan et al., 2006).

3.20 Procedure for the Pilot Study

The pilot study was conducted in the 12+19 October 2-day study from PMC. Nursing under the category of The QSEN competency program was established. The following was the study's procedure:

1. Study Design: The pilot study utilized a pre-post intervention design to evaluate the effectiveness of the QSEN competency program.

2. Ethical considerations: Ethical approval was obtained from the institutional review board to ensure the protection of nursing privacy, confidentiality, and voluntary participation.

3. Participants: Participants were selected from nursing in PMC in October a total of nurses constituted the sample.

4. Intervention: The QSEN competency program was implemented as the intervention approach in the nursing program during a 2-day study conducted on October 12 and 19.

5. Data Collection: A pre-post self-administered questionnaire was used to collect data on nursing demographic information and QSEN competency.

The questionnaire was administered before and after the intervention period.

Data analysis involved the use of descriptive statistics, reliability tests, and paired sample statistics to assess changes in The QSEN competency program that affect the KSAs of nursing. The findings show that these nurses demonstrate improvements in their quality and safety knowledge scores, competencies, and skills, as well as positive changes in their attitudes toward quality and safety.

3.21 Data Analysis

Descriptive Statistics

Descriptive statistics, reliability tests, and paired sample statistics were used. Descriptive statistics were employed to summarize and present the main features of the dataset. This includes measures such as mean, median, mode, range, and standard deviation. Each variable of interest, including junior nurses' KSAs, was subjected to descriptive analysis. This step allowed for a comprehensive overview of the central tendencies and variability within the dataset:

1-Reliability Tests: were conducted to assess the consistency and stability of the measurement instruments, particularly the questionnaire used to collect data on junior nurses' KSAs. Internal consistency of the questionnaire items was assessed using established reliability measures such as Cronbach's alpha. A high-reliability coefficient indicates that the items within each construct KSAs are measuring the same underlying concept consistently.

2-Paired Samples Statistics: were utilized to compare the performance of junior nurses before and after the implementation of the QSEN competency -based program. This allowed for an examination of any significant changes in KSAs. The pre-post intervention scores for each participant were paired, and statistical tests (e.g., paired-samples t-test) were applied to determine if there were statistically significant differences. This analysis aimed to quantify the impact of the QSEN competency program on junior nurses' competencies.

3-Data Interpretation: Descriptive statistics provided a clear summary of the central tendencies and variability in junior nurses' performance. Reliability tests ensured that the questionnaire used was a consistent and dependable measure of KSAs. Paired

sample statistics allowed for a robust comparison of performance before and after the intervention.

Analyze the Data for the Instrument

The First Instrument: Clinical Performance Evaluation Tool

By Grading System: Grading System: S = Satisfactory, NI = Needs Improvement, U = Unsatisfactory (Satisfactory): Meets all expectations for the competency.

NI (Needs Improvement): Does not meet all expectations for the competency

0: Unsatisfactory,1: Needs Improvement,2: Satisfactory

To determine the reliability and validity of the CPET, describe the distribution of scores across the six domains, and identify any relationships between the CPET scores and other performance measures.

Descriptive Statistics:

Use the summary: function to calculate various descriptive measures for Clinical Performance Evaluation Tool (CPET) scores. For example, the summary (Patient-Centered Care, Teamwork and Collaboration, EBP, Quality Improvement, Safety, Informatics) will provide the mean, standard deviation, minimum, maximum, and quartiles.

Frequency Tables: Use the table, function to create frequency tables for the tool for Clinical Performance Evaluation Tool (CPET) scores. table (will create a table with the frequency of each unique score (Patient-Centred Care, Teamwork and Collaboration, EBP, Quality Improvement, Safety, Informatics).

Percentage Tables: Use the prop. Table, function to calculate the percentage of respondents in each category. For example, prop. table (6core competency) will calculate the percentage of respondents who scored 0, 1, 2,

Descriptive statistics (means, standard deviations, frequencies) will be calculated for the CPET scores across the six domains.

In the Second Instrument:

The data was entered using a restricted data Excel file, then exported to SPSS version 25 software, then cleaned and the variables were defined and labelled. Based on a scoring guide the KSAs questions were recorded into,

as 0 (never), 1 (very rarely), 2 (rarely), 3 (occasionally), 4 (frequently), or 5 (very frequently).

where the respondent was scored by 0 the answer was never if his answer was very rarely the answer was 1 if his answer was rarely answered was 2 if the answer was occasionally the answer was 3, if his answer was frequently the answer was 4, if his answer was very frequently the answer was 5) and was scored by 0 if his answer was (never, very rarely, and really), then KSAs questions score was computed by summing the scores of the total questions, then the score of knowledge19itemes, skilles17itemes, and atitudes18itemes, was transformed to score of 100.

Nurses who scored above 95% were considered to have good knowledge and those who scored less than 95% were considered to have poor knowledge. nurses who had 85% were considered to have good skills less than 85% were considered to have poor skills, and Nurses who scored above 90% had good attitudes less than 90% we considered poor attitudes. `

Descriptive Statistics:

Use the summary: function to calculate various descriptive measures for your CPET scores. For example, the summary (knowledge score) will provide the mean, standard deviation, minimum, maximum, and quartiles.

Frequency Tables: Use the table, function to create frequency tables for the tool (Patient-centred Care Scale (KSAI-PCCS) scores. table (knowledge score) will create a table with the frequency of each unique score.

Percentage Tables: Use the prop. Table, function to calculate the percentage of respondents in each category. For example, prop. table (knowledge score)) will calculate the percentage of respondents who scored 0, 1, 2,

The Open-Ended Component of the Study

A quantitative method using open-ended questionnaire responses was used to systematically examine the effects of QSEN competency-based curriculum on the KSAs of junior nurses.

The study's open-ended component:

Provide three (3) specific examples of didactic knowledge, three (3) particular instances of clinical skills, and three (3) specific instances of personal attitudes/ values.

The aforementioned open-ended questions and the participants' answers will be examined by creating a coding scheme that highlights the main ideas. Create a classification scheme that identifies the following important ideas for this study on the KSAs of junior nurses as a result of a QSEN competency-based program:

The QSEN competency-based program's effect on nurses' KSAs. The coded data will be analyzed by the researcher using quantitative analytic techniques. To determine which notions are most prevalent and how they have changed, the researcher computed the frequency of each code.

3.22 Summary

This research, the focus was on detailing the methodology adopted to investigate QSEN competency based program on junior nurses' KSAs at the Palestinian MOH. The

research design, a pre-post intervention model, was described, emphasizing the systematic collection of data from junior nurses enrolled in nursing. Ethical considerations were addressed, with approval obtained from the institutional review board to protect participant privacy and ensure voluntary participation. The intervention involved the implementation of the QSEN competency program, and data collection utilized a self-administered questionnaire. Descriptive statistics, reliability tests, and paired sample statistics were employed for a comprehensive data analysis. The chapter concluded by highlighting the significance of the chosen methodology in providing a robust understanding of the QSEN competency program's impact on junior nurses' competencies.

Chapter Four

Result

4.1 Introduction

This chapter presents the results of the analysis that try to answer the main question of this study "*What is the impact of QSEN on the knowledge, skills, and attitudes of junior nurses working in the Palestinian Ministry of Health*" by answering the following research sub-questions:

1. Do junior nurses in Palestine who take part in a QSEN illustrate a change in their quality and safety competence scores?
2. Do junior nurses in Palestine who take part in a QSEN show an improvement in their quality and safety knowledge scores?
3. Do junior nurses in Palestine who take part in a QSEN experience a change in their skills about quality and safety?
4. Do junior nurses in Palestine who take part in a QSEN experience a change in their attitudes about quality and safety?

4.2 Participants' Characteristics Among Both Groups (Control V S. Interventional)

When comparing the characteristics and demographic characteristics of the study participants between the control and interventional groups, we note from the table number 2 that most of the participants work in the general surgery department, 36%, and the least of the participants work in the daycare unit, females, 59.5%, and married women, 60.7%. All of these characteristics were relatively similar between the two groups, as there was no statistically significant difference except for the level of education and place of study. The results showed that the vast majority were holders of

a first university degree and graduates of An-Najah National University and the Ibn Sina Institute (25.3% and 24% respectively), as they had a statistically significant difference between the two groups.

As for age and work characteristics, the results showed that the average age of the participants was approximately 28 years, and the average number of years of work and job was approximately 4 years, and there was no statistically significant difference between the two groups.

Thus, a comparison can be made between the two groups (control v s. Interventional), as most of the variables between the two groups (control vs. Interventional) did not have a statistically significant difference. See table 2

Table 2: Comparison of the Participants' Characteristics Among both Groups (Control vs. Interventional [n=65 vs. 99 Respectively]).

Groups								
		Total	Control 65 (39.6%)		Interventional 99 (60.4%)			
			n	%	n	%		
Department	*Medical*	32 (19.5%)	13	20.0%	19	19.2%		
	Daily Care	17 (10.4%)	7	10.8%	10	10.1%		
	Pediatric	23 (14.0%)	13	20.0%	10	10.1%		
	Surgical	59 (36.0%)	19	29.2%	40	40.4%		
	ICU	33 (20.1%)	13	20.0%	20	20.2%		
Gender	*Male*	66 (40.5%)	28	43.1%	38	38.8%		
	Female	97 (59.5%)	37	56.9%	60	61.2%		
MS	*Single*	64 (39.3%)	25	38.5%	39	39.8%		
	Married	99 (60.7%)	40	61.5%	59	60.2%		
Education	*BSC*	137 (84.6%)	53	81.5%	84	86.6%		
	H. Diploma	4 (2.5%)	4	6.2%	0	0.0%		
	Master	21 (13.0%)	8	12.3%	13	13.4%		
University	*Ibn Sina*	35 (24.0%)	17	28.8%	18	20.7%		

	ANNU	37 (25.3%)	19	32.2%	18	20.7%		
	Rawda	7 (4.8%)	7	11.9%	0	0.0%		
	Andaleeb	1 (0.7%)	1	1.7%	0	0.0%		
	Aaup	14 (9.6%)	8	13.6%	6	6.9%		
	Alquds	24 (16.4%)	5	8.5%	19	21.8%		
	Beitlehem	9 (6.2%)	1	1.7%	8	9.2%		
	Almansora	1 (0.7%)	1	1.7%	0	0.0%		
	Msu	3 (2.1%)	0	0.0%	3	3.4%		
	Beirzeit	14 (9.6%)	0	0.0%	14	16.1%		
	Alsaraya	1 (0.7%)	0	0.0%	1	1.1%		
	Group	Mean	SD	Median	MIN	MAX		
Age	Control	28.60	5.12	27	21	45		
	Intervention	27.81	4.18	26	22	40		
Work Year	Control	4.28	3.37	4	1	18		
	Intervention	3.86	2.36	4	1	15		
Employment	Control	4.68	3.28	4	1	18	1.911	.059
	Intervention	3.61	2.21	4	1	15		

MS: marital status

To answer the first research question, “Do junior nurses in Palestine who take part in a QSEN illustrate a change in their quality and safety competence scores?” Mann-Whitney U statistical test was used to assess if there is any difference in the quality and safety competence scores between the two groups at baseline.

The Baseline Averages Level of Quality and Safety Competence Subscales Among the Participants in The Study

The averages level of quality and safety competence scores among the participants of both groups in the study was examined before the education process began. It was found that the averages level of quality and safety competence scores were higher among the participants in the control group compared to the averages level

of quality and safety competence scores among the participants in the interventional group (Patient Centered Care [17.72 vs.13.99], Teamwork & Collaboration [14.93 vs.11.83], Evidence-Based Practice [4.10 vs. 3.27], Quality Improvement [6.16 vs. 4.92], Safety [13.40 vs. 10.78], Informatics [13.89 vs.9.92] respectively).

Moreover, these differences in the averages level between the two groups (control & interventional) in all quality and safety competence scores were statistically significance (*p* value. < 0.001). see table 3

Table 3: The Baseline Averages Quality and Safety Competence Subscales Among the Participants (Control Vs. Interventional) in the Study

Quality & safety competence (Pretest)	Group	N	Mean	Std. D	Median	M-W U	Z	*P* value
Patient Centered Care	*Control*	54	17.72	4.87	19.50	1348.0	-4.027	<0.001
	Interventional	84	13.99	5.24	13.00			
Teamwork & Collaboration	*Control*	58	14.93	4.36	17.00	1431.5	-4.351	<0.001
	Interventional	86	11.83	4.09	12.00			
Evidence-Based Practice	*Control*	60	4.10	1.26	4.00	1789.0	-3.711	<0.001
	Interventional	91	3.27	1.27	3.00			
Quality Improvement	*Control*	61	6.16	2.04	6.00	1910.0	-3.675	<0.001
	Interventional	95	4.92	1.98	5.00			
Safety	*Control*	57	13.40	3.99	14.00	1788.0	-3.530	<0.001
	Interventional	95	10.78	4.38	10.00			
Informatics	*Control*	47	13.89	2.83	14.00	1001.5	-5.296	<0.001
	Interventional	93	9.92	4.05	8.00			

M-W U: Mann-Whitney U

The figure 4 shows that the averages level of quality and safety competence subscales were nearly the same among the participants in the interventional group

compared to the averages level of quality and safety competence subscales among the participants in the control group.

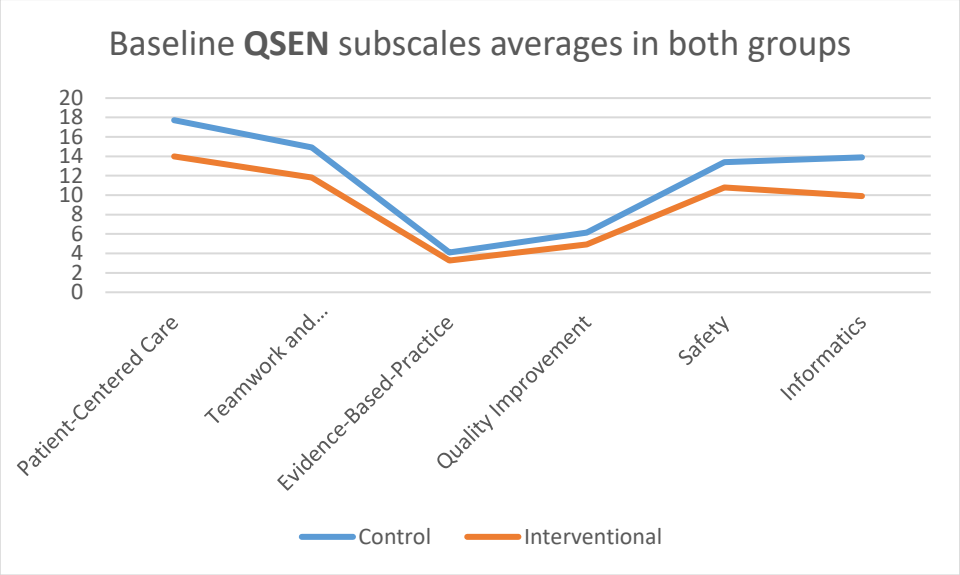

Figure 4: The Baseline (Pretest) Averages Level of Quality and Safety Competence Subscales Among the Participants (Control Vs. Interventional) in the Study

The Posttest Averages Level of Quality and Safety Competence Subscales Among the Participants in The Study

To answer the first research question, "Do junior nurses in Palestine who take part in a QSEN illustrate a change in their quality and safety competence scores?" Mann-Whitney U statistical test was used to assess if there is any difference in the quality and safety competence scores between the two groups study was examined after the education process began (post-intervention). It was found that the average level of quality and safety competence subscales were higher among the participants in the interventional group compared to the average level of quality and safety competence subscales among the participants in the control group (Patient Centered Care [22.89vs. 18.28], Teamwork & Collaboration [19.52 vs.16.57], Evidence-Based Practice [5.60

vs.4.15], Quality Improvement [8.45 vs.6.48], Safety [17.12 vs.13.60], Informatics [16.82 vs.15.06] respectively).

Also, this difference in the average level between the two groups (Control & Interventional) in all subscales of quality and safety competence were statistically significant (p-value. < 0.001). see table 4

Table 4: The Posttest Averages the Level of Quality and Safety Competence Subscales Among the Participants (Control Vs. Interventional) in the Study

Quality & safety competence subscales (post)	*Hospital*	N	Mean	Std. D	Median	M-W U	Z	*P* value
Patient-Centered Care	*Control*	58	18.28	4.24	19.50	766.500	-7.832	<0.001
	Interventional	94	22.89	2.26	24.00			
Teamwork and Collaboration	*Control*	56	16.57	3.72	18.00	1170.500	-5.806	<0.001
	Interventional	92	19.52	2.36	21.00			
Evidence-Based-Practice	*Control*	61	4.15	1.25	4.00	1097.000	-7.368	<0.001
	Interventional	98	5.60	0.73	6.00			
Quality Improvement	*Control*	63	6.48	1.81	7.00	1111.000	-7.412	<0.001
	Interventional	98	8.45	1.08	9.00			
Safety	*Control*	60	13.60	3.41	15.00	798.500	-7.828	<0.001
	Interventional	94	17.12	1.52	18.00			
Informatics	*Control*	51	15.06	2.31	15.00	1204.000	-5.230	<0.001
	Interventional	94	16.82	1.99	18.00			

M-W U: Mann-Whitney U

The figure 5 shows that the averages level of quality and safety competence subscales were higher among the participants in the interventional group compared to the averages level of quality and safety competence subscales among the participants in the control group.

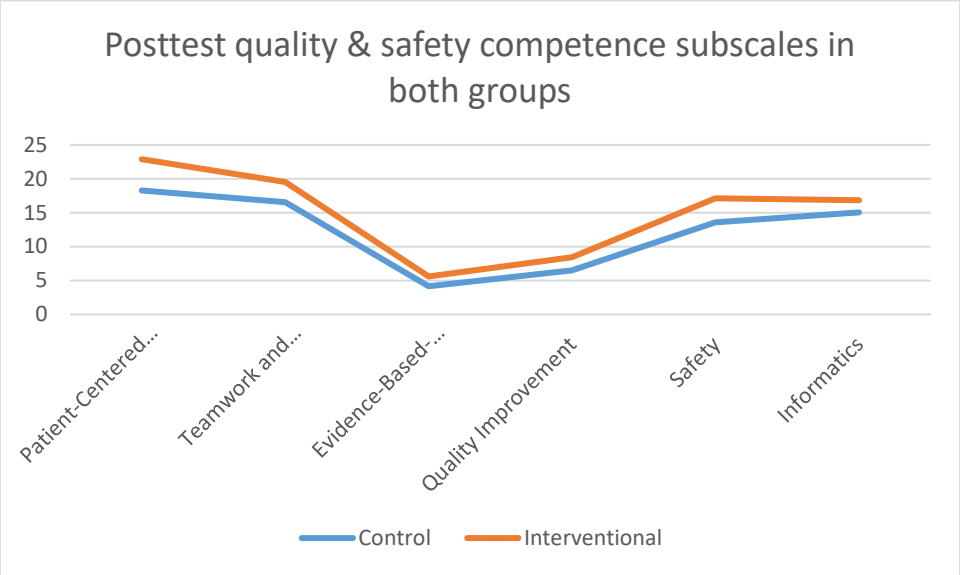

Figure 5: The Posttest Averages Level of Quality and Safety Competence Subscales Among the Participants (Control Vs. Interventional) in the Study

The Difference between the Baselines (Pretest) and Posttest After Intervention of Average Level of Quality and Safety Competence Subscales Among the Control Group Participants in the Study

To answer the first research question, "Do junior nurses in Palestine who take part in a QSEN illustrate a change in their quality and safety competence scores?" the difference between the baselines (pretest) and after intervention (posttest) of the average level of quality and safety competence subscales among the control group participants in the study was examined by Wilcoxon Signed Rank Test.

It was found that the average level of quality and safety competence subscales were nearly the same between the pretest (baseline) and post-test after intervention

among the participants in the control group (Patient Centered Care [17.68 vs. 18.14], Teamwork & Collaboration [15.13 vs.16.46], Evidence-Based Practice [4.17 vs. 4.12], Quality Improvement [6.21 vs. 6.50], Safety [13.38 vs.13.57], Informatics [13.89 vs.14.97] respectively).

Also, these differences between the baselines (pretest) and posttest after the intervention of average level of quality and safety competence subscales among the control group participants in the study in all subscales of quality and safety competence were not statistically significant (*p-value*. > 0.05) accept the "Teamwork Collaboration" subscale which was statistically significant (*p-value*. = 0.023) and slightly higher in the posttest compared with baseline (pretest). see table 5

Table 5: Paired Statistic of The Difference Between the Baselines (Pretest) And Posttest After Intervention of Average Level of Quality and Safety Competence Subscales Among the Control Group Participants in the Study

Quality and safety competence subscales	*Test*	Mean	N	Std. D	Median	Z	*P* value
Patient Centered Care	*Pre*	17.68	50	4.78	19.50	-.720	0.471
	Post	18.14	50	4.37	19.50		
Teamwork Collaboration	*Pre*	15.13	52	4.24	17.00	-2.272	0.023
	Post	16.46	52	3.82	18.00		
Evidence Based Practice	*Pre*	4.17	57	1.22	4.00	-.372	0.710
	Post	4.12	57	1.26	4.00		
Quality Improvement	*Pre*	6.21	60	2.01	6.00	-.894	0.371
	Post	6.50	60	1.85	7.00		
Safety	*Pre*	13.38	54	3.89	14.00	-.382	0.702
	Post	13.57	54	3.48	15.00		
Informatics	*Pre*	13.89	47	2.83	14.00	-1.906	0.057
	Post	14.97	47	2.38	15.00		

Wilcoxon Signed Rank Test

Figure 6 revealed that the average level of quality and safety competence subscales were nearly the same between the pretest (baseline) and posttest after intervention among the participants in the control group.

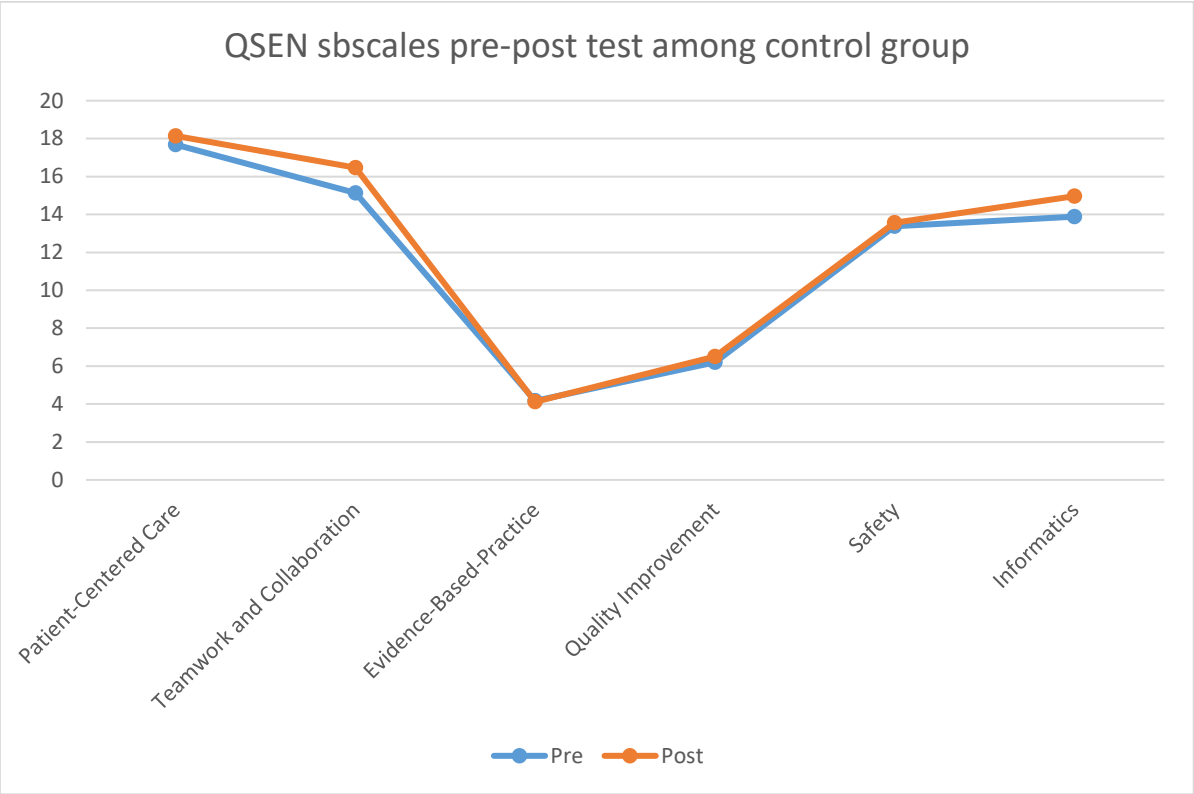

Figure 6: Baselines (Pretest) and Posttest After Intervention of Average Level of Quality and Safety Competence Subscales Among the Control Group Participants in the Study

The Difference Between the Baselines (Pretest) and Posttest After Intervention of Average Level of Quality and Safety Competence Subscales Among the Interventional Group

To answer the first research question, "Do junior nurses in Palestine who take part in a QSEN illustrate a change in their quality and safety competence scores?" the difference between the baselines (Pretest) and after intervention (post-test) of the average level of quality and safety competence subscales among the intervention group participants in the study was examined by using the Wilcoxon Signed Rank Test.

It was found that the average level of quality and safety competence subscales were higher in the post-test intervention compared to the baseline (pretest) among the participants in the interventional group (Patient Centered Care [22.77 vs. 13.72], Teamwork & Collaboration [19.48 v s.11.81], Evidence-Based Practice [5.57 v s. 3.28], Quality Improvement [8.42 v s. 4.93], Safety [17.07 v s.10.71], and Informatics [16.77 v s. 9.82] respectively).

Also, these differences between the pretest (baselines) and posttest after the intervention of the average level of quality and safety competence subscales among the interventional group participants in the study in all subscales of quality and safety competence were not statistically significant (*p-value*. > 0.05). see table 6

Table 6: Paired Statistic of the Difference Between the Baselines (Pretest) And Posttest After Intervention of Average Level of Quality and Safety Competence Subscales Among the Interventional Group Participants in The Study

Quality and safety competence subscales	Test	Mean	N	Std. D	Median	Z	*P* value
Patient Centered Care	*Pre*	13.72	79	5.17	13.00	-7.460	0.000
	Post	22.77	79	2.33	24.00		
Teamwork Collaboration	*Pre*	11.81	79	4.09	12.00	-7.419	0.000
	Post	19.48	79	2.36	21.00		
Evidence Based Practice	*Pre*	3.28	90	1.27	3.00	-7.711	0.000
	Post	5.57	90	.749	6.00		
Quality Improvement	*Pre*	4.93	94	1.98	5.00	-7.823	0.000
	Post	8.42	94	1.09	9.00		
Safety	*Pre*	10.71	90	4.38	10.00	-7.601	0.000
	Post	17.07	90	1.53	18.00		
Informatics	*Pre*	9.82	89	4.07	8.00	-7.819	0.000
	Post	16.77	89	2.03	18.00		

Wilcoxon Signed Rank Test

Figure 7 present that the averages level of QSEN subscales were higher in the post test after intervention compared to the baseline (pretest) among the participants in the interventional group.

Impact of QSEN on the knowledge, skills and attitudes of junior nurses working in the Palestinian Ministry of Health

Baseline knowledge, skills, and attitudes of junior nurses (control and intervention) working in the Palestinian Ministry of Health:

To answer the second, third, and fourth questions “Do junior nurses in Palestine who take part in a QSEN show an improvement in their quality and safety knowledge, skills, and attitude scores?”, the level of knowledge, skills, and attitude among the participants in the study were examined before the education process began.

The knowledge distribution was not normally distributed (normality test: Kolmogorov–Smirnov, Shapiro–Wilk), and nearly 70% of participants had knowledge between 29 to 79 out of 100 among the control group and between 30 to70 out of 100 among intervention group as presented in figure 8.

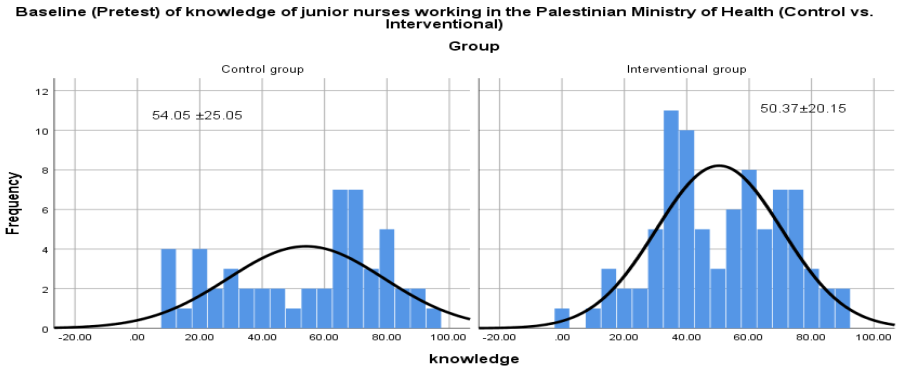

Figure 7: Baseline Quality and Safety Knowledge of Junior Nurses (Control & Intervention) Working in the Palestinian Ministry of Health

The skills distribution was not normally distributed (normality test: Kolmogorov–Smirnov, Shapiro–Wilk), and nearly 70% of participants had skills and

attitudes between 21 to 69 out of 100 among control group and between 26 to 60 out of 100 among the intervention group as presented in figure 8.

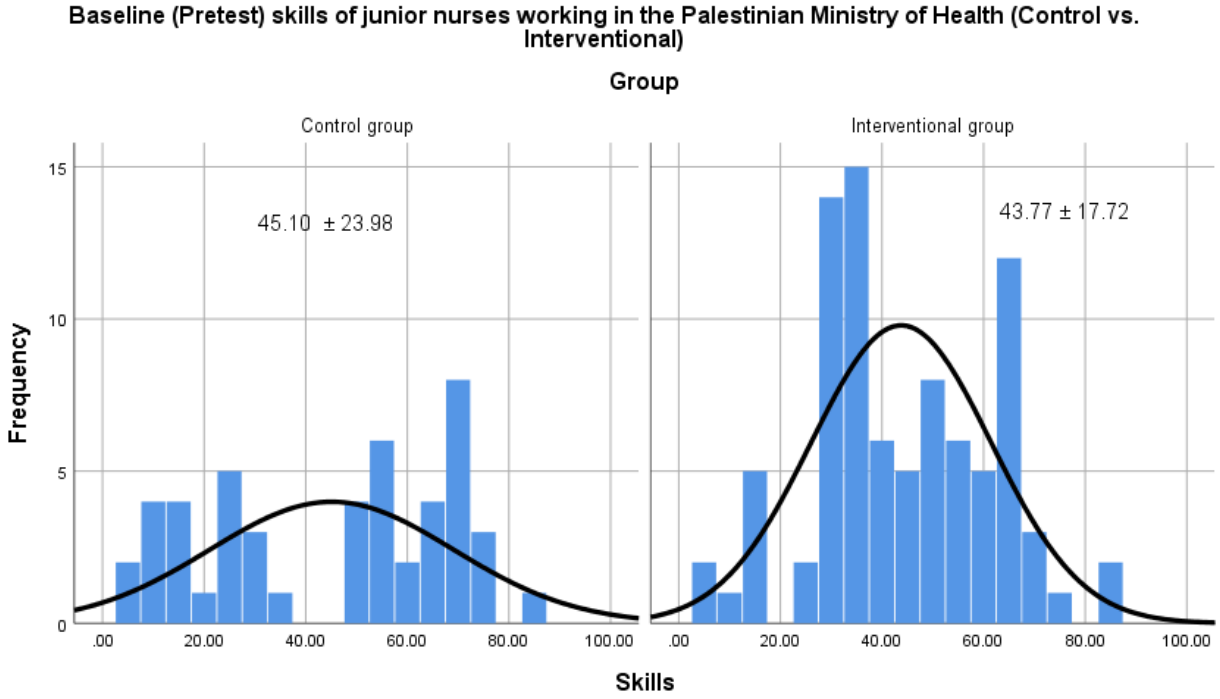

Figure 8: Baseline Quality and Safety Skills of Junior Nurses (Control & Intervention) Working in the Palestinian Ministry of Health

The attitude distribution was not normally distributed (normality test: Kolmogorov–Smirnov, Shapiro–Wilk), and nearly 70% of participants had skills and attitudes between 24 to 77 out of 100 among control group and between 25.5 to 66 out of 100 among intervention group as presented in figure 9.

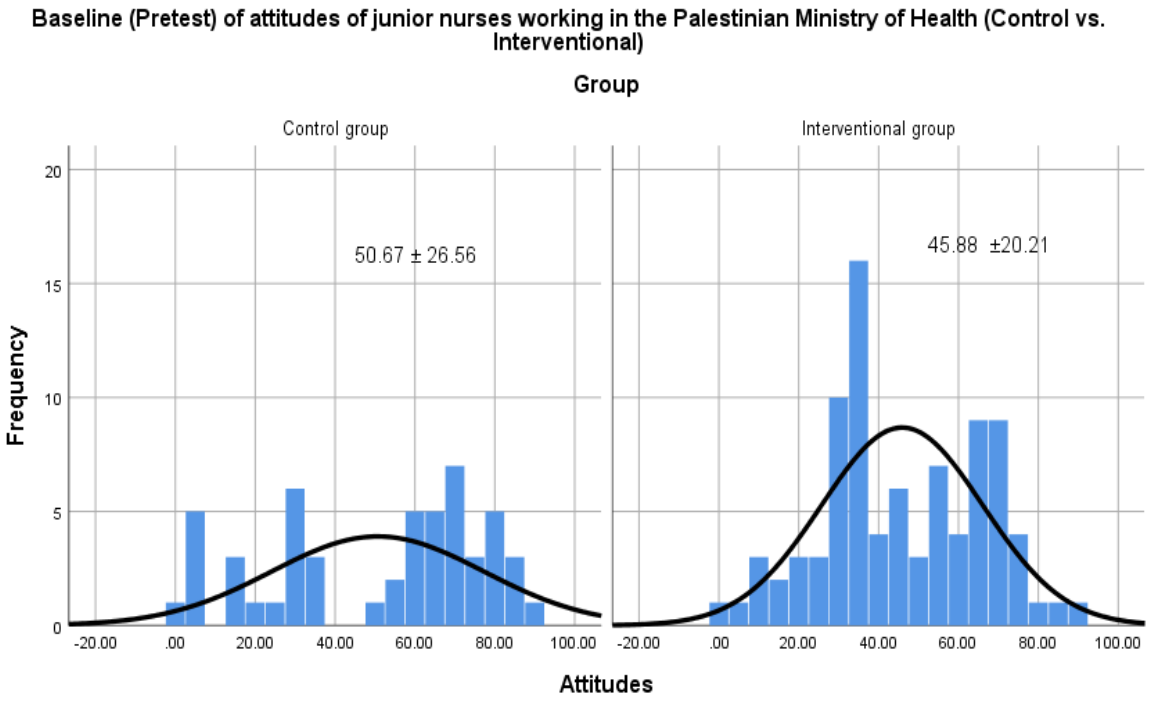

Figure 9: Baseline Quality and Safety Attitude of Junior Nurses (Control & Intervention) Working in the Palestinian Ministry of Health

Baseline (Pretest) of Knowledge, Skills and Attitudes of Junior Nurses Working in The Palestinian Ministry of Health (Control Vs. Interventional)

The average level of knowledge was slightly higher among the participants in the control group compared to the average level of knowledge among the participants in the experimental group (54.06 & 50.37 respectively), but this difference did not have any statistical significance (*p* value. 0.29). See figure 8 and table 7

As for skills and attitudes, the averages of participants skills and attitudes were slightly higher among participants of the control group compared to the averages of participants skills and attitudes in the intervention group, where the average of skills and attitudes among members of the control group was 45.1 & 50.67 respectively compared to the average of skills and attitudes among members of the intervention group, which were 34.77 and 45.88 respectively, but these differences had no statistical

significance (*p* values >0.05). Therefore, the two groups had approximately the same average level of skills and attitudes in the period before conducting the educational interventions. Thus, it is possible to conduct a comparison between the two groups to measure the educational procedure impact. See table 7

Table 7: Baseline (Pretest) Of Quality and Safety Knowledge, Skills and Attitudes of Junior Nurses Working in The Palestinian Ministry of Health (Control Vs. Interventional)

Pretest quality and safety	Group	N	Mean	Std. D		M-W U	Z	*P* value
Knowledge	Control	52	54.06	25.06	63.00	1925.50	-1.052	0.293
	Interventional	83	50.37	20.16	49.00			
Skills	Control	48	45.10	23.99	51.50	2019.50	-0.315	0.753
	Interventional	87	43.77	17.73	40.00			
Attitudes	Control	52	50.67	26.57	58.50	1985.00	-1.308	0.191
	Interventional	88	45.89	20.22	43.00			

M-W U: Mann-Whitney U

In Figure 10, the baseline (pretest) averages level of knowledge, skills, and attitudes of participants were ***slightly*** higher among the participants in the control group compared to the average level of knowledge among the participants in the intervention group.

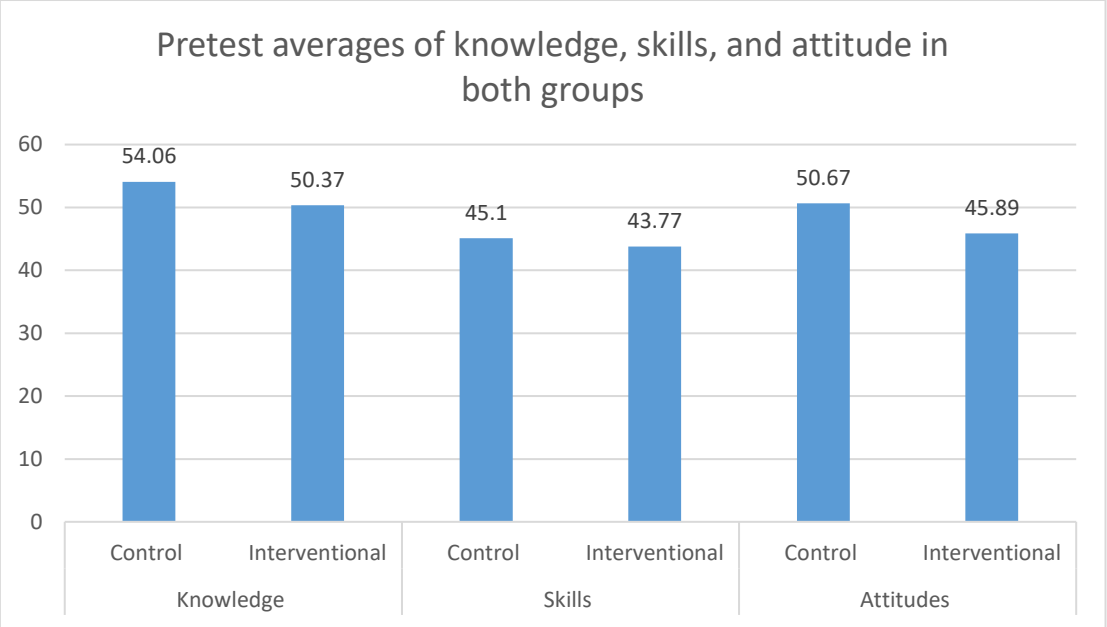

Figure 10: Baseline (Pretest) Of Quality and Safety Knowledge, Skills and Attitudes of Junior Nurses Working in the Palestinian Ministry of Health (Control Vs. Interventional)

Posttest Quality and Safety Knowledge, Skills and Attitudes of Junior Nurses Working in The Palestinian Ministry of Health (Control and Interventional)

To measure the impact of the educational procedure on the level of quality and safety knowledge, skills, and attitudes among the participants in the intervention group, a Mann-Whitney U statistical test was used because the distribution test showed that the distribution was not normally distributed. Therefore, by looking at the third table, we find that the average level of Knowledge among the participants in the procedural group was higher compared to average level of Knowledge among participants in the control group in the period after the educational procedure (77.02 & 49.19 respectively) and these had a statistically significance differences (*p* value <0.001).

Also, the average level of quality and safety skills among the participants in the intervention group was higher compared to average level of quality and safety skills among participants in the control group in the period after the educational procedure

(70.16 & 44.61 respectively) and these had a statistically significance differences (*p* value <0.001).

Moreover, the average level of quality and safety attitude among the participants in the interventional group was higher compared to average level of quality and safety attitude among participants in the control group in the period after the educational procedure (75.47 & 46.16 respectively) and these had a statistically significance differences (*p* value <0.001). see table 8

Table 8: Posttest Quality and Safety Knowledge, Skills and Attitudes of Junior Nurses Working in The Palestinian Ministry of Health (Control Vs. Interventional)

Posttest quality and safety	Group	N	Mean	Std. D	Median	M-W U	Z	*P* value
Knowledge	*Control*	57	49.19	26.91	53.00	943.000	-6.509	0.000
	Interventional	91	77.02	16.39	77.00			
Skills	*Control*	54	44.61	25.13	51.00	955.500	-6.256	0.000
	Interventional	93	70.16	13.91	74.00			
Attitudes	*Control*	55	46.16	27.41	48.00	925.000	-6.537	0.000
	Interventional	94	75.47	13.94	78.00			

M-W U: Mann-Whitney U

In Figure 11, the posttest averages level of quality and safety knowledge, skills, and attitudes of participants were higher among the participants in the intervention group compared to the average level of quality and safety knowledge among the participants in the control group.

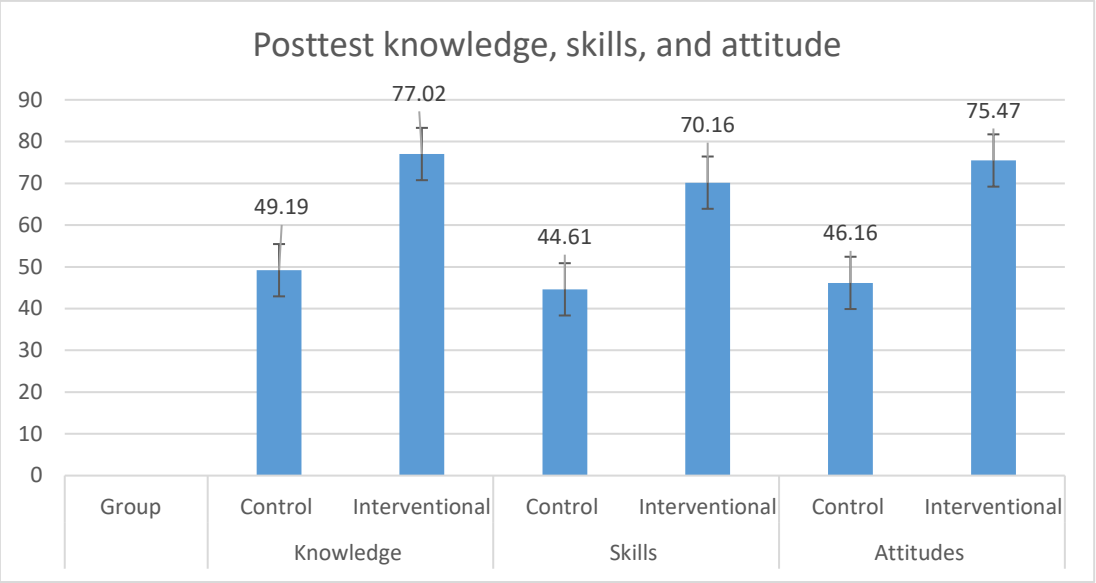

Figure 11: Distribution of the Posttest Quality and Safety Knowledge, Skills and Attitude Averages Among the Two Groups (Control and Interventional)

To answer the 2nd, 3rd, and 4th questions "what is the impact of QSEN on the quality and safety knowledge, skills and attitudes of junior nurses working in the Palestinian Ministry of Health", the difference between the baselines (Pretest) and posttest after intervention of averages level of quality and safety knowledge, skills, and attitude among the control group participants in the study was examined by Wilcoxon Signed Rank Test.

It was found that the averages level of quality and safety knowledge, skills and attitudes were nearly the same between the baseline (pretest) and posttest intervention among the participants in the control group (knowledge [54.06 vs. 49.19], skills [45.10 vs. 44.61], attitude [50.67 vs.46.16] respectively).

Also, these little difference between the baselines (Pretest) and posttest after intervention of averages level of quality and safety knowledge, skills and attitudes among the control group participants in the study were not statistically significance (*p* value. > 0.05). see table 9

Table 9: Paired Statistic of The Difference Between the Baselines (Pretest) And Posttest After Intervention of Averages Level of Quality and Safety Knowledge, Skills, And Attitude Among the Control Group Participants in The Study

Quality & safety		N	Mean	Std. D	Median	Z	*P* value
knowledge	*Pre*	52	54.06	25.06	63.00	-.672	0.502
	Post	57	49.19	26.91	53.00		
Skills	*Pre*	48	45.10	23.99	51.50	-.077	0.939
	Post	54	44.61	25.13	51.00		
Attitudes	*Pre*	52	50.67	26.57	58.50	-1.017	0.309
	Post	55	46.16	27.41	48.00		

Wilcoxon Signed Rank Test

It was found, as seen in figure 12 that the averages level of quality and safety knowledge, skills and attitudes were approximately the same in the posttest after intervention compare to the baseline (pretest) among the participants in the interventional group.

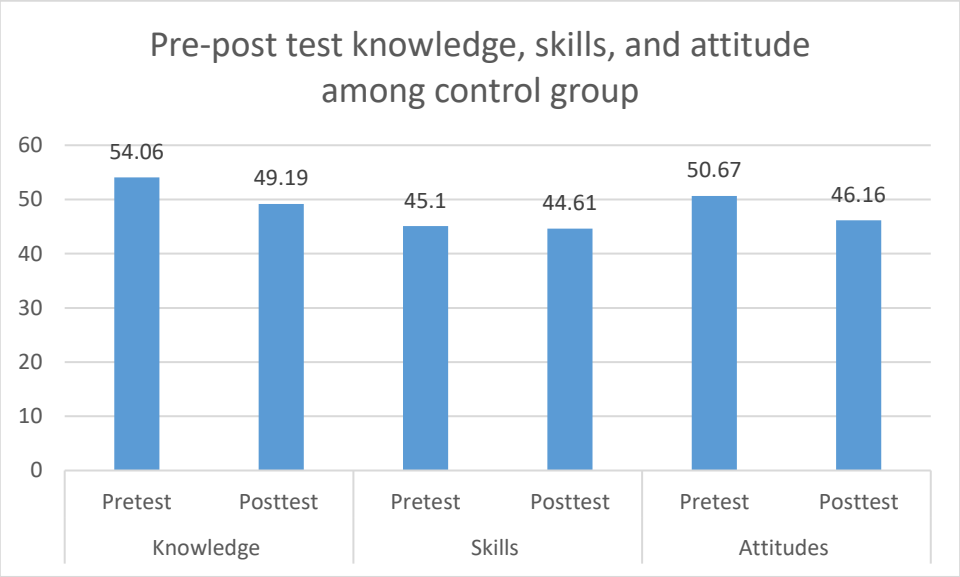

Figure 12: Baselines (Pretest) and Posttest after Intervention of Averages Level of Quality and Safety Knowledge, Skills, and Attitude Among the Control Group Participants

To answer the 2nd, 3rd, and 4th questions "what is the impact of QSEN on the quality and safety knowledge, skills and attitudes of junior nurses working in the Palestinian Ministry of Health", the difference between the baselines (Pretest) and posttest after intervention of averages level of quality and safety knowledge, skills, and attitude among the interventional group participants in the study was examined by Wilcoxon Signed Rank Test.

It was found that the averages level of quality and safety knowledge, skills and attitudes were higher in the posttest after intervention compare to the baseline (pretest) among the participants in the interventional group (knowledge [50.37 vs.77.02], skills [43.77 vs.70.16], attitude [45.89 vs.75.47] respectively).

Also, these difference between the baselines (Pretest) and posttest after intervention of averages level of quality and safety knowledge, skills and attitudes among the interventional group participants in the study were statistically significance (*p* value. < 0.05). See table 10

Table 10: Paired Statistic of The Difference Between the Baselines (Pretest) And Posttest After Intervention of Averages Level of Quality and Safety Knowledge, Skills, And Attitude Among the Interventional Group Participants in the Study

Quality & safety		N	Mean	Std. D	Median	Z	*P* value
knowledge	*Pre*	83	50.37	20.16	49.00	-6.551	0.000
	Post	91	77.02	16.39	77.00		
Skills	*Pre*	87	43.77	17.73	40.00	-7.084	0.000
	Post	93	70.16	13.91	74.00		
Attitudes	*Pre*	88	45.89	20.22	43.00	-7.358	0.000
	Post	94	75.47	13.94	78.00		

Wilcoxon Signed Rank Test

It was found as seen in figure 13, that the averages level of quality and safety knowledge, skills and attitudes were higher in the posttest after intervention compare to the baseline (pretest) among the participants in the *interventional* group**.**

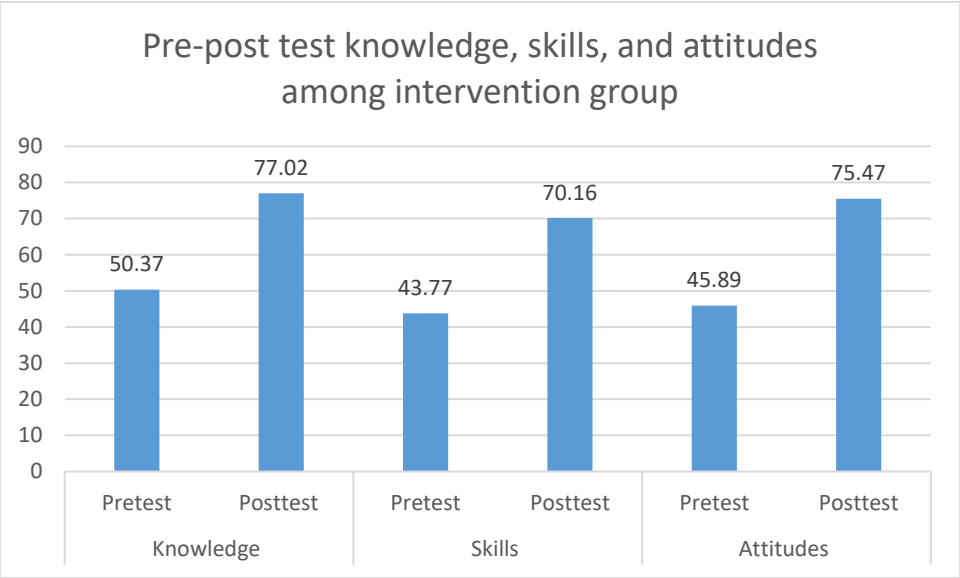

Figure 13: Baselines (Pretest) And Posttest After Intervention of Averages Level of Quality and Safety Knowledge, Skills, And Attitude Among the Intervention Group Participants

The Open-Ended Component of the Study

- Mention three (3) specific examples of didactic knowledge
- Mention three (3) specific examples of clinical skills
- Mention three (3) specific examples of personal attitudes/values

The participants' responses to the above-mentioned open-ended questions was analyzed by developing a coding scheme that identifies the key concepts. In this study, the effect of a QSEN competency-based program on junior nurses' knowledge, skills, and attitudes, develop a coding scheme that identifies the following key concepts:

The impact of the QSEN competency-based program on the knowledge, skills, and attitudes of nurses. The researcher used quantitative analysis methods to analyze the

coded data. The researcher calculated the frequency of each code to see which concepts are most common and their changes.

Examples of Didactic Knowledge:

It is clear, by looking at Figure No. 14, which shows the distribution of the responses of the participants from both groups about three examples of didactic knowledge. The results showed that most of the examples centered on medication administration, patient assessment, and wound care. The percentage of responses from both groups (control vs. intervention) were relatively close in the pre-test, but it increased significantly among the participants in the intervention group in the post-test compared with their pre-test results and with the post-test results of the control group.

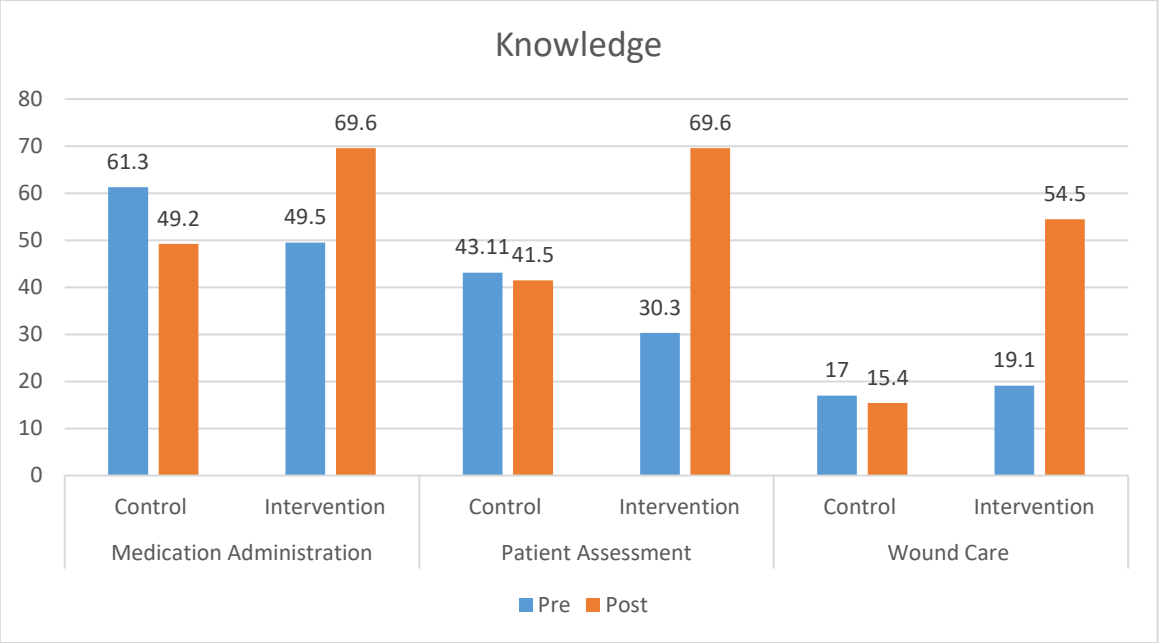

Figure 14: The participants' responses distribution of the most common three specific examples of didactic knowledge (control vs. intervention).

Examples of Clinical Skills:

It is clear, by looking at Figure No. 15, which shows the distribution of the responses of the participants from both groups about three examples of clinical skills.

The results showed that most of the examples centered on IV catheter insertion, medication calculation, and physical assessment. The percentage of responses from both groups (control vs. intervention) were relatively close in the pre-test, but it increased significantly among the participants in the intervention group in the post-test compared with their pre-test results and with the post-test results of the control group.

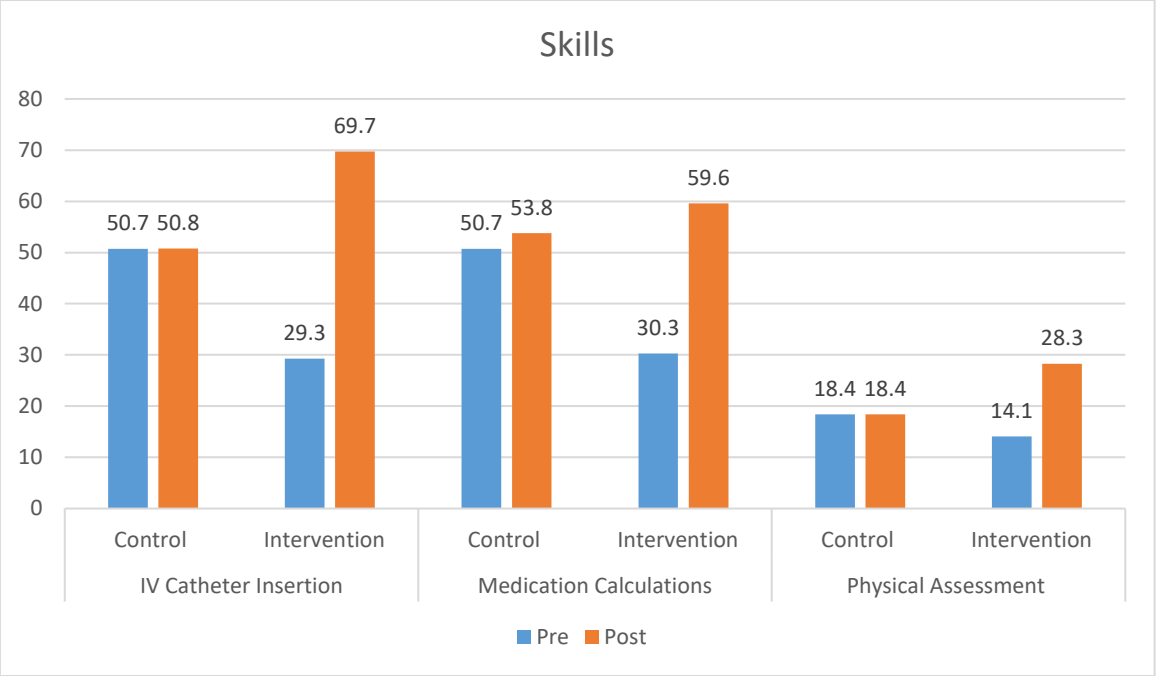

Figure 15: The Participants' Responses Distribution of the Most Common Three Specific Examples of Clinical Skills (Control Vs. Intervention)

Examples of Personal Attitudes/Values:

It is clear, by looking at Figure No. 16, which shows the distribution of the responses of the participants from both groups about three examples of personal attitudes/values. The results showed that most of the examples centered on culture sensitivity, empathy listening, and respect for autonomy. The percentage of responses from both groups (control vs. intervention) were relatively close in the pre-test, but it increased significantly among the participants in the intervention group in the post-test compared with their pre-test results and with the post-test results of the control group.

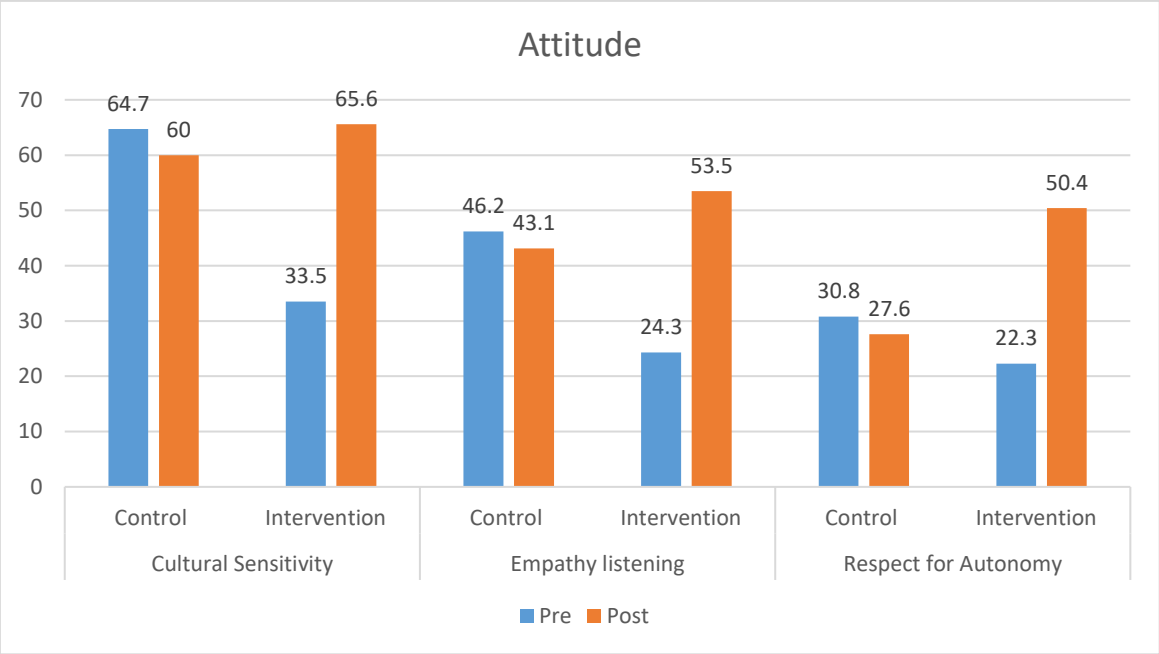

Figure 16: The Participants' Responses Distribution of the Most Common Three Specific Examples of Personal Attitudes/Values (Control Vs. Intervention)

4.3 Summary

In Palestine, QSEN positively impacts the knowledge, skills, attitudes, and systems thinking of junior nurses. The junior nurses in Palestine who take part in a QSEN illustrate a change in their quality and safety competence scores, show an improvement in their quality and safety knowledge scores, experience a change in their skills about quality and safety, and experience a change in their attitudes about quality and safety.

Chapter Five

Discussion

5.1 Overview

This chapter discusses the findings concerning existing research evidence by comparing similarities elsewhere while empirically and theoretically analyzing the result. In addition, the strengths and limitations of the current study are discussed. The chapter ends with recommendations for future research in the same area and presents the study's conclusion.

Many nursing pre-licensure education programs use these frameworks. Although there is an increasing interest in patient safety, research indicates that it is not regularly taught in nursing schools (Murray, 2018). De Rezende (2021) notes a lack of consensus on effective methods for teaching preregistration nursing students about PS. Therefore, the main objective of this study was to determine the impact of QSEN on the knowledge, skills, and attitudes of junior nurses in the Palestinian MOH.

To prepare graduates to provide PCC as members of an interdisciplinary team, emphasizing EBP, QI approaches, and informatics, faculties of medicine, nursing, and other health professions are challenged by the 2003 (IOM) Health Professions Education Report (Rababah et al., 2021). Nurses play an essential role in ensuring PS and quality of care. To provide safe and effective care, nurses must have the necessary knowledge, skills, and attitudes and collaborate and communicate effectively within their work environment, which is often part of a larger organization.

Nurses play a crucial role in PS by monitoring clinical deterioration, detecting errors and near misses, understanding care processes and system weaknesses, and

providing high-quality care across various healthcare settings (Van Geest & Cummins, 2013).

These six qualities are ingrained in United States nursing school requirements to ensure that nurses are ready to transition from education to practice. Several research studies worldwide show that nurse practice and education unevenly apply PS and quality (Kirwan et al., 2019). No research has evaluated the impact of developing PS initiatives on instructors' educational outcomes in nursing faculty. The nurse educator's essential competencies rank "curriculum and implementation" as the second of eight essential competencies for nursing educators (Sherwood & McNeill 2017).

5.2 Discussion of the Results

The findings of this study guide improvement action plans that assist healthcare organizations in meeting specific quality and safety objectives mandated by national accrediting bodies in their communities. Incorporating the KSAs of the QSEN core competencies into nursing practice can enhance quality measurements and, consequently, the hospital consumer assessment of health care providers & system survey (HCAHPS) scores, in addition to having a favorable influence on quality and safety outcomes (Abdalla et al., 2023).

This study confirmed the results of the literature review regarding the problems in nursing education that prompted the use of QSEN and the difficulties in integrating it. This section discusses common topics from the literature review framework and the study's findings.

The current study found that the average level of quality and safety competence scores were higher among the participants in the control group compared to the average level of quality and safety competence scores among the participants in the

interventional group before the education process as regards the PCC, Teamwork & Collaboration, EBP, QI, Safety, Informatics with statistically significant differences (p-value. < 0.001) in the average level between the two groups (Control & Interventional) in all quality and safety competence scores. This may be justified by a higher percentage of high diploma and master's degree carriers among the control group than in the interventional group. In addition, some nurses do not have enough time to participate in PS training courses in the workplace due to heavy workloads and nurse shortages.

Dennis et al. Found that the average general knowledge results for every QSEN fundamental skill were highest in collaboration and teamwork for the two groups. Registered Nurses in managerial positions had the lowest scores in EBP, whereas recently employed Registered Nurses showed the least proficiency in informatics (Dennis et al., 2012). Rahman and Azam (2011) outlined eight quality management methods considered optimal for effectively adopting a whole quality management framework in a hospital environment. The practices included managerial dedication, collaboration and involvement, process management, client needs and fulfillment management, handling resources, organizational behaviour and cultural backgrounds, continual enhancement, and educational opportunities and training (Talib et al .2011).

These results go hand in hand with Bertch, who found that for newly employed registered nurses, the knowledge part of the questionnaire had a mean score of 67.6% (SD = 10.32) (range 47 to 84%). The mean score (SD = 8.06) for registered nurses in staff leadership positions was 72.1% (50 to 88%). When RNs in staff leadership roles and recently hired RNs were combined, the mean score was 69.2% (SD = 9.76) (Bertch, 2012). On the contrary, the current study's findings did not concur with those of

Kakemam et al., who showed that nurses' perceptions of overall PS competency were 3.44 out of 5.0 and that 41% of nurses evaluated their competency below 3.0, suggesting a lack of competency for PS. According to subscales, almost 60% of nurses lacked sufficient PS knowledge. This may be explained by the fact that most working nurses have little to no formal university education to prepare them for PS concerns (Kakemam et al., 2024).

In response to findings from the IOM and other organizations, nursing education must emphasize safety and quality more in healthcare education so that graduates can improve PS. Positive student results require the development and testing of effective teaching practices (Habibi Soola et al., 2022).

When examining each QSEN core competency in this study to assess the difference in the quality and safety competence scores between the two groups, the study was examined after the education process began (post-intervention). It revealed that the average quality and safety competence subscales were higher among the participants in the interventional group compared to the average level of quality and safety competence subscales among the participants in the control group PCC [22.89 v s. 18.28], Teamwork and collaboration [19.52 vs 16.57], EBP [5.60 vs 4.15], QI [8.45 v s 6.48], Safety [17.12 vs 13.60], Informatics [16.82 vs 15.06] respectively) with statistically significant difference (p-value. < 0.001) in the average level between the two groups (Control & Interventional) in all subscales of quality and safety competence. The lower score in the QI domain was further supported by the self-reported skills assessment by these groups of junior nurses as they considered themselves “novice/familiar” when using graphical tools to represent QI data as well as simple statistical data analysis.

These findings are consistent with Bertch et al, (2012) who showed that registered nurses in staff leadership roles performed best on knowledge questions about teamwork and collaboration (81.1%), closely followed by informatics (80.9%). The lowest percentage of correct answers came from QI (70.8%) and EBP (62.4%). The results of this group of RNs' self-reported skills evaluation further corroborated their lower QI domain score (Bertch et al., 2012).

Another study looked at how structured instructional content affected senior-level nursing students' safety and quality in healthcare systems, building on earlier research. The research study employed a combination of approaches, with content analysis applied to the qualitative data gathered from focused discussion groups and repeated-measures evaluation of covariance used to analyze the statistical data gathered from the KSAs questionnaire on students' perceptions of quality and safety. Pupils' knowledge, abilities, and attitudes about security and quality are best developed through academic and real-world learning experiences (Vaismoradi et al., 2014).

The current study showed that there was a statistically significant difference (p-value. < 0.001) in the average level between the two groups (Control & Interventional) in all subscales of quality and safety competencies as the average level of quality and safety competence subscales were higher among the participants in the interventional group compared to the average level of quality and safety competence subscales among the participants in the control group. It was found that the average level of quality and safety competence subscales were nearly the same between the pre-test (baseline) and post-test after intervention among the participants in the control group (PCC [17.68 v s. 18.14], Teamwork & Collaboration [15.13 v s.16.46], EBP [4.17 vs. 4.12], QI [6.21 vs.

6.50], Safety [13.38 vs.13.57], Informatics [13.89 v s.14.97] respectively) as they did not receive any educational process as the interventional group.

These differences between the baselines (pre-test) and (post-test) after the intervention of average level of quality and safety competence subscales among the control group participants in the study in all subscales of quality and safety competencies were not statistically significant (*p-value*. > 0.05) accept the "Teamwork Collaboration" subscale which was statistically significant (*p-value*. = 0.023) and slightly higher in the post-test compared with baseline (pre-test). The average participant skills and attitudes in the control group were slightly higher than those in the intervention group. Specifically, the control group's average participant skills and attitudes were 45.1 and 50.67 out of 100 respectively, while the average s 'in the intervention group were 43.77 and 45.88, out of 100 respectively. This may be attributed to the control group's greater perceived skill competence level, which might be attributed to their longer years of experience.

In addition, to evaluate the impact of years of RN experience on newly hired RNs or RNs in staff leadership roles. Bertch et al. reported that a nurse's years of experience as an RN did not influence her comprehension of the attitudes, knowledge, and skills of the QSEN core competencies in this context (Bertch et al., 2012). The current study found that differences between the pre-test (baselines) and (post-test) after the intervention of the average level of quality and safety competence subscales among the interventional group participants in the study in all subscales of quality and safety competence were statistically significant (*p-value*. < 0.05) as the averages level of quality and safety competence subscales were higher in the (post-test) intervention compared to the baseline (pre-test) among the participants in the interventional group as

they received a comprehensive educational program that help in improving the level of knowledge.

Bertch et al. also studied the impact of QI training programs on newly hired RNs or RNs in staff leadership roles. However, they reported that many respondents (60 percent, n = 33) said they had no prior QI training. QI training is not explicitly stated in the KSAI-PCCS questionnaire, but it can include everything from processing the data and reporting the results to gathering data through chart audits. Also, there was no significant difference in the knowledge scores of registered nurses (RNs) depending on their most significant degree of education (Bertch et al., 2012).

Regarding the baseline level of knowledge distribution, nearly 70% of participants knew 29 to 79 among the control group and between 30 to 70 among the intervention group. This suggests that most respondents do not possess the skill mastery and ensuing skills needed to use the QSEN core competencies in real-world situations. This might suggest a lack of knowledge of the QSEN critical competencies in all areas and for all experience levels. The QSEN core competencies did not have a "passing" score established by Maxwell (2017) since no minimal threshold was stated to be competent in any of the six QSEN areas. Consequently, a score of 70% might be utilized as the minimal threshold cut score to be considered QSEN competent on the knowledge section of the questionnaire, based on a conventional benchmark of 70% as average or an acceptable passing level (Maxwell, 2017).

Bertch in (2012) observed that RNs in staff leadership roles and newly hired RNs often lacked a strong understanding of the QSEN essential skills, scoring an average of 69.2%. Each group rated their proficiency in the overall QSEN essential skills on a Likert scale ranging from 2 to 98, with a standard deviation of 1.16, at or

near the "understanding" level. The participants emphasised the importance of nurses having the necessary knowledge and skills to improve the quality and safety of patient care (Bertch, 2012).

To measure the impact of the educational procedure on the level of quality and safety KSAs among the participants in the intervention group, the present study showed that the average level of knowledge among the participants in the procedural group was higher compared to the average level of KSAs among participants in the control group in the period after the educational procedure. These had a statistical significance differences (*p-value* <0.001). The median amount of safety and effectiveness KSAs remained consistent between the beginning of the (pre-test) and (post-test) interaction for individuals in the untreated group (control group). There was not a significant distinction between the initial (pre-test) and (post-test) therapy (intervention) results among the individuals in the absence of the intervention group (p-value > 0.05).

It was found that the average level of quality and safety KSAs were higher in the post-test after the intervention compared to the baseline (pre-test) among the participants in the interventional group. The results supported the idea that nurses were likely to have a high encounter level of awareness about PS and adverse events when they scored higher on quality and safety competence skills, including knowledge and attitude. Additionally, nurses with superior skills and dispositions will notify their managers or PS departments about adverse events.

The study also supported the idea that the educational program improved nurses' self-rated quality and safety skills in the interventional group. The interventional group showed considerable progress in their self-rated KSAs toward the six QSEN

competence areas. The enhanced nurses' self-rated ratings increased across all categories. The consequences of this article recommend that the interventional group is more confident in their skills. Consequently, this article suggests that exercising quality and safety services in a virtual setting improves self-confidence and efficacy.

Consistent with the present study, Pollard et al. (2016) studied the importance of introducing QSEN competencies in the curricula. The statistics show a reasonably high percentage of programs covering QSEN skills information. A study of academic leaders and faculty revealed that nursing programs provided fewer courses focusing on QSEN capabilities. The research found that pre-licensure programs emphasized PS, teamwork, and collaboration. Faculty, deans, and directors reported using various pedagogical research to teach competencies. The study reported high satisfaction with student skill growth and teacher ability in teaching these abilities and that instructors lack knowledge in quality enhancement and EBP, which aligns with their reported low student competency levels (Pollard et al., 2016).

According to the study conducted by Pollard et al. (2016), 47% of participants were employed in clinical settings besides their academic employment. This shows that faculty education on QSEN skills might impact practice settings. Educators might assist nurses who obtained their degrees long before the particular KSAs were established as necessary practice components in incorporating the QSEN competencies into their clinical work. By serving as mentors and role models in their clinical responsibilities, nurse faculty members have a unique opportunity to impact the practice of seasoned and recently graduated registered professional nurses. Most respondents said they were very or moderately active in curriculum creation (Pollard et al., 2016).

These findings were inconsistent with a prior South Korean study that found a correlation between adverse events and low-rated PS competence (Son et al., 2019). The interventional group primarily holds a bachelor's degree, with a smaller fraction holding a certificate or master's degree, indicating incomplete clinical rotations. The students could lack confidence since they have limited exposure to quality and safety problems in the medical environment. Individuals in the experimental category who have completed one college level may have greater confidence in their experiences. The participants' average scores on the skills list were more favorable than those of the comparison group, suggesting greater trust regarding their abilities.

Nonetheless, the training program successfully raised nurses' safety ratings and knowledge. This suggests that the instructional approach raised nurses' awareness of the quality and safety competency areas alone. Furthermore, there was an erroneous outcome: in the competency area of skills, the control group's scores dramatically dropped in the control group. Shepherd et al. (2010) found no significant enhancement in cognition and that participants had inadequate understanding ratings after the simulation. Burns et al. (2010) found that student results on the following test for understanding the procedure in nursing did not show a significant rise. However, they were improving in various other categories.

Corbridge et al. (2010) investigated acquiring knowledge and satisfaction through simulations. The research team found that knowledge assessments were more extensive, but did not show significant variations among the two subgroups. The outcomes of the knowledge test were suboptimal (Corbridge et al., 2010). Park & Kim (2016) found that students in the therapeutic category experienced notable improvements in PS understanding, abilities, and opinions regarding quality and safety

competence. The study shows that a competency-based quality enhancement and a safety education program successfully enhance students' understanding, skills, and attitudes regarding quality and safety competence (Park & Kim, 2016).

An additional study discovered that the project treatments had a statistically significant effect on the group receiving the intervention ($p < 0.05$). Average scores improved by 37% in the treatment group, compared to an improvement of 12% in the not intervening group (Tanz, 2018). Piscotty et al. (2011) conducted a quasi-experimental study using pre-test and post-test approaches. They found that the total scores on the self-assessment in the conventional group grew considerably ($p < 0.001$) and in the faster group improved to a lesser extent ($p = 0.011$). Significant increases were observed in understanding and safety assessments among the conventional (knowledge: $p < .001$; safety: $p = 0.028$) and expedited (knowledge: $p = 0.027$; safety: $p = 0.03$) groups. The invention notably enhanced learners' confidence and understanding of quality and safety abilities (Piscotty et al., 2011).

Kirwan et al. (2019) found that PS is integrated into the training of nurses in twenty-seven countries, with lower levels of incorporation in European Union nations. Most nations do not have regulations for combining PS and quality except the United States (Kirwan et al., 2019). Steven and colleagues showed that international cooperation can accelerate transformation by exchanging experiences of educational events related to PS (Steven et al., 2019). Potential interpretations of these findings have been proposed in several ways. First, a comprehensive approach was used to construct the knowledge assessment for this study. Every set of students was given a certain quality of care scenario. The particular situation was the center of the student's focus

regarding the substance. The test focused on general safety and high-quality information rather than the content of the student's particular cases.

According to Rodgers et al. (2010), the study found no correlation between the written evaluation and the participants' performance in the simulation. They also suggested that the written exams included a more comprehensive range of information, whereas the practical examination only covered a small percentage of the subject matter (Rodgers et al., 2010). A further approach to explain the findings would be to assert that regardless of the outcome, each nurse earned the same amount of class points for finishing the post-test. This suggested that the nurses were not obliged to study for the exam content after the educational process. The educational process may work best when it is combined with lectures rather than when it is the only way to learn new information (Cant & Cooper, 2017; Elfrink et al., 2010).

The study's key finding is that nurses' confidence in their ability to demonstrate quality and safety competencies may be raised via the education process. All nurses must have confidence in their skills, especially in clinically oriented professions like nursing. This study also implies that to assess the efficacy of the educational process, careful planning and implementation of assessment techniques are essential. It might not be the best idea to help nurses acquire information if you assume that they will learn things that are either not taught to them or that they must learn on their own (Son et al., 2019). The university also strongly desires to participate in QSEN competency-related development initiatives. The results suggest that an increasing number of nurses graduating from nursing programmes will have a good understanding of and experience with the QSEN competencies. This is due to faculty members being driven to

incorporate QSEN content more comprehensively into their curricula and being instrumental in bringing about this change.

A systematic review utilized Vincent's approach to examine risk and safety in medical care, organizing results into categories such as 'individuals', 'medical care practitioner', 'task', "employment setting', and 'organization and administration'. A total of six studies focusing on the safety of patients during treatments by clinical nurses were found. Nurses' compliance with PS protocols is influenced by patient involvement, healthcare providers' expertise and views, cooperation, appropriate tools and computerized systems, teaching and consistent feedback, and standardization of care procedures (Vaismoradi, 2020). Sherwood (2021) states, " The intricate scope and nuances of the expertise, skills, and mind-sets necessary for enhancing quality and safety pose barriers to progress in educational and research settings". There are a few instances where an advanced practice nurse may significantly impact healthcare delivery more than QI goals, practice enhancements, and instructional changes that benefit quality and safety activities (Sherwood 2012).

Existing research highlights a gap in understanding students' perceptions of QSEN skills. While most studies focus on assessing and evaluating QSEN skills, further research is needed to understand how pre-licensure nursing students perceive these competencies. The literature assessment excluded studies on associate degree education and faculty opinions of QSEN (Jones, 2013; Pollard, 2014). Armed with this understanding, the practice setting may modify instructional initiatives to promote a high-quality, safety-applied nursing culture. Bringing nursing education from academia to practice will advance the field by fortifying ties between academics and practice. The

QSAAN project and the QSEN program provide countless opportunities for cooperation and growth (Mugerwa et al., 2021).

Nursing partnerships solely focused on enhancing the quality safety environment have the potential to become a significant industry force for patient quality and safety throughout the healthcare continuum and in the creation of future health policies. Enabling healthcare providers with the necessary tools to enhance their knowledge and abilities is crucial for maintaining a safe and high-quality work environment, as it is the country's health (Habibi Soola et al., 2022). Therefore, QSEN aims to equip nurses with the necessary information, skills, and attitudes to improve healthcare quality and security, especially for the Palestinian MOH. A national initiative called the QSEN project pushes nurses to rethink "what and how" they offer nursing care to ensure quality and safety. QSEN helps nurses concentrate their efforts on quality and safety, allowing them to identify and fix gaps between current and ideal practices.

The research presented here emphasizes the many possibilities in professional roles to achieve enduring change and foster an environment of safety and quality. Individuals in these positions can influence transformation by customizing the QSEN core skills' studies and evidence-based strategies to align with the organization’s culture. To enhance quality and safety across every aspect of an organization, a profound grasp of the QSEN fundamental skills, medical systems, secure patient treatment methods, and the ability to work with colleagues from different fields is essential.

5.3 Summary of Discussion

Significant gains were observed in the intervention group in the QSEN study, especially in the areas of PCC, Teamwork & Collaboration, EBP, Q I, Safety, and Informatics. The statistical significance of these increases ($p < 0.001$) concerning the control group suggests that the educational intervention was efficacious. The findings also indicated that nurses' self-confidence in their capacity to exhibit quality and safety competence grew following the intervention. This study emphasizes how structured educational programs help nurses become more knowledgeable, proficient, and safety- and quality-conscious, which eventually leads to better patient outcomes. Furthermore, it is consistent with earlier studies showing the beneficial effects of educational programs on healthcare professionals' comprehension and utilization of core competencies in clinical settings, pointing to a viable path for the continued advancement and incorporation of QSEN principles in nursing practice and education.

5.4 Strengths and Limitations of the Dissertation

It is to the best of my knowledge, it is the first study in Palestine. The present investigation included hospital nurses in the research assessing the effects of a QSEN-based program on junior nurses' KSAs at the Palestinian Ministry of Health, yielding noteworthy findings. The study is essential due to the limited understanding of how QSEN affects nurses' understanding, skills, mindsets, and systems thinking. The two instruments used in the present investigation are reliable and helpful for assessing nurses' QSEN capabilities in the urgent care practice context. The instruments can determine nurses' duties and educational levels using sophisticated qualitative enhancement methodologies and implementing EBPs.

Employing a technique to evaluate the understanding of the nursing workforce is a great way to establish a starting point for enhancing quality and safety. Identifying deficiencies in KSAs allows for focused educational interventions within QSEN categories. Initiating from the six QSEN talents led to a harmonious relationship within the nursing field. Nevertheless, it has some constraints that need to be resolved. The initial constraint was using a convenience sample, mainly bachelor's degree nursing students. Another constraint was the brief study time. Despite the average completion time being just under 30 minutes, it may still be considered excessively long. The survey was designed to be completed in many contexts as needed.

The sample size for the role of junior nurse would be a further limitation. Fewer nurses are in these positions than direct-care nurses or junior nurses. The number of actual participants for the nurse administrative job indicated the total nursing population. To account for the small number of nurses who meet the requirements for this nursing profession, a significant number of hospitals would need to be included in the survey to obtain a significant sample size.

5.5 Conclusions

This study supports the idea that the education process improved KSAs regarding six QSEN competencies among junior nurses. The baseline level of knowledge distribution was low among the control and intervention groups, as most respondents do not think they possess the skill mastery and ensuing skills needed to use the QSEN core competencies in real-world situations. After the implementation of the educational process, the average level of quality and safety competence subscales were higher among the participants in the interventional group compared to the average level of quality and safety competence subscales among the participants in the control group.

The integration of QSEN principles into nursing education and practice is imperative for fostering a seamless transition from academia to clinical settings. By aligning educational curricula with the QSEN program, nursing administrations, and academic institutions can bridge the gap between theoretical knowledge and practical application, ultimately enhancing patient outcomes and promoting safe, high-quality care delivery. Scientific evidence suggests that healthcare organizations implementing QSEN principles experience improvements in patient safety, reduced medical errors, and increased staff satisfaction. Therefore, prioritizing QSEN integration not only ensures the cultivation of competent nursing professionals but also contributes to the advancement of healthcare quality and safety standards on a broader scale

This conclusion underscores the evidence-based rationale behind advocating for the incorporation of QSEN principles into nursing education and practice, emphasizing its potential to drive positive outcomes in knowledge, skills, and attitudes for hospital nurses.

5.6 Recommendations

The recommendations are geared towards augmenting nurses' competencies and underscore the critical significance of integrating QSEN competencies into patient-centered nursing education. This integration is pivotal for advancing knowledge acquisition, refining skills proficiency, and cultivating professional attitudes within nursing practice. By aligning educational strategies with QSEN principles, nursing education QSEN programs can effectively prepare nurses to deliver high-quality, patient-centered care, thereby contributing to improved healthcare outcomes. The most important recommendations include the following:

1. Additional training and education about QI concepts and approaches, as well as EBP, should be considered for nurses.
2. Improvements in reported KSAs in this particular QSEN competencies are unlikely to be realized unless the nurse is routinely immersed in QI data associated with his or her area of clinical specialization.
3. It will require more deliberate and open integration of the QSEN core competencies into the curricula of local and regional nursing schools, as well as potential validation of these capabilities to nursing hospital administration.
4. We recommend that the MOH make the QSEN competency Assessment a formal and ongoing part of every registered nurse's professional development plan.
5. Invest resources in nurses' preceptor evaluation and development to improve their comprehension and presentation of the QSEN competencies and KSAs.
6. This study suggests that offering team training is a positive way to increase safety. More investigation is required to determine whether the training is a requirement that can be transferred to different acute care settings. To raise awareness, all nursing ranks in the acute care context also need to get QI training.
7. One possible avenue for future study and program development is to poll recent graduates and their supervisors on how they incorporate QSEN competencies into their nursing practice.
8. Studies that monitor the frequency of safety-related incidents involving graduates of programs where QSEN competencies are incorporated into the curriculum and the frequency of incidents involving graduates of programs where QSEN competencies are not integrated into the curricula may also be considered.

9. Further researches are needed to investigate specific interventions in educational QSEN competencies programs in hospitals, aimed at enhancing nurses' patient-centered care competencies, as identified by the KSAI-PCCS.

References

AACN. (2013). About AACN. Washington, DC: AACN. Retrieved from http://www.aacn.nche.edu/about-aacn

Abdalla Jarelnape, A., & Sagiron, E. I. (2023). Evaluation of the effectiveness of simulation-based teaching on nursing education: A systematic review. Egyptian Journal of Health Care, 14(3), 302-311.

Ackley, B. J., & Ladwig, G. B. (2010). Nursing diagnosis handbook-e-book: An evidence-based guide to planning care. Elsevier Health Sciences.

Alameddine, M., Fouad, F. M., Diaconu, K., Jamal, Z., Lough, G., Witter, S., & Ager, A. J. (2019). Resilience capacities of health systems: Accommodating the needs of Palestinian refugees from Syria. Social Science & Medicine, 220, 22-30.

Alireza, K., Mohsen, P., & Hossein. (2019). Patient Safety Climate and Its Affecting Factors Among Rehabilitation Health Care Staff of Hospitals and Rehabilitation Centers in Iran-Tehran. Iranian Rehabilitation Journal, 17, 39-48.

Alksnite, A., Bordo, Z., & Grabe, Z. (2020). Case study of atonic internal postpartum haemorrhage following severe preeclampsia and cesarean section. International Journal of Reproduction, Contraception, Obstetrics and Gynaecology.

Altmiller, G. (2018). Establishing frameworks for quality and safety education for nurses' competency integration. Nurse Education, 43(5), 230-231.

Altmiller, G. (2019). Care bundles, QSEN, and student learning. Nurse Education Perspectives, 44(1), 7-8.

Altmiller, G., & Hopkins-Pepe, L. J. (2019). Why quality and safety education for nurses (QSEN) matters in practice. Teaching and Learning in Nursing, 14, 199-200.

Altmiller, G., Bleich, M. R., & Jun, D. J. (2020). QSEN transcends cultures: Teaching quality and safety education in China. Teaching and Learning in Nursing, 15(3), 106-108.

Altmiller, G., Deal, B., Ebersole, N., Flexner, R., Jordan, J., Jowell, V., ... & Szymanski, K. (2018). Constructive feedback teaching strategy: A multisite study of its effectiveness. Nurse Educator, 39(5), 291-296.

American Association of Colleges of Nursing (AACN). (2008). The Essentials of Baccalaureate Education for Professional Nursing Practice. Retrieved from https://www.aacnnursing.org/Education-Resources/AACN-Essentials

Andrade, C. (2021). The limitations of quasi-experimental studies, and methods for data analysis when a quasi-experimental research design is unavoidable. Indian Journal of Psychological Medicine, 43(5), 451-452.

Armstrong, G. J. (2019). QSEN safety competency: The key ingredient is just culture. Journal of Continuing Education in Nursing, 50(10), 444-447.

axwell, K. (2017). Evaluating the effectiveness of two teaching strategies on nursing students' knowledge skills and attitudes of quality improvement and safety (Doctoral dissertation).

Bertch, D. A. (2012). Quality and safety education in newly hired RNs and RNs in staff leadership roles.

Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). Taxonomy of educational objectives: The classification of educational goals. Longmans, Green.

Boswell, C., Sanchez, L., & Powers, R. J. (2021). QSEN competencies: How well are we doing? The Journal of Nursing Management, 52(4), 49-53.

Brady, D. S. (2011). Using quality and safety education for nurses (QSEN) as a pedagogical structure for course redesign and content. International Journal of Nursing Education Scholarship, 8(1).

Burns, H., O'Donnell, J., & Artman, J. (2010). High-fidelity simulation in teaching problem solving to 1st-year nursing students: A novel use of the nursing process. Clinical Simulation in Nursing, 6(3), e87-e95.

Cambridge English Dictionary. (n.d.). Skills. Cambridge University Press. Retrieved from https://dictionary.cambridge.org/us/dictionary/english/skills

Cant, R. P., & Cooper, S. J. (2017). The value of simulation-based learning in pre-licensure nurse education: A state-of-the-art review and meta-analysis. Nurse education in practice, 27, 45-62.

Cengiz, A., & Yoder, L. H. (2020). Assessing nursing students' perceptions of the QSEN competencies: A systematic review of the literature with implications for academic programs. Worldviews on Evidence-Based Nursing, 17(4), 275-282.

Christie-McAuliffe, C. (2014). Introduction to Quality and Safety Education for Nurses: Core Competencies. Springer Publishing Company.

Cooper, E. J. (2017). Quality and safety education for nurses implementation: Is it sustainable? Nursing Education Perspectives, 42(5S), S8-S11.

Creswell, J. W., & Báez, J. C. (2020). 30 essential skills for the qualitative researcher. Sage Publications.

Cronenwett, L. R., Barnsteiner, J. J., & National Advisory Council on Nurse Education and Practice. (2021). QSEN Origins: 2000–2005. Journal of Professional Nursing, 63.

Cronenwett, L. S. (2007). Quality and safety education for nurses. Nursing Outlook, 55(3), 122–131. https://doi.org/10.1016/j.outlook.2007.02.006

Cronenwett, L., & Sherwood, G. (2003). Quality and safety education for nurses. Nursing Clinics, 38(4), 693-705.

Cronenwett, L., Sherwood, G., & Gelmon, S. B. (2009). Improving quality and safety education: The QSEN Learning Collaborative. Journal of Nursing Education, 48(6), 304-312.

Cronenwett, L., Sherwood, G., Barnsteiner, J., Disch, J., Johnson, J., Mitchell, P., ... & Warren, J. (2007). Quality and safety education for nurses. Nursing Outlook, 55(3), 122-131.

Curcio, D. L. (2021). Engaging students in a QI/QM presentation to enhance QSEN concept learning. Journal of Nursing Education, 60(3), 269-272.

De Rezende, M. (2021). A lack of consensus on effective methods for teaching preregistration nursing students about patient safety. Journal of Nursing Education, 60(5), 245-252. https://doi.org/10.3928/01484834-20210420-03

Dennis, S., Gauld, R., & McCarthy, A. (2012). Nurses' use of computerised clinical decision support systems: A case site analysis. Journal of Clinical Nursing, 21(15-16), 2266–2275. Rahman and Azam (2011).

DiCuccio, M. H. (2015). The relationship between patient safety culture and patient outcomes. Journal of Patient Safety, 11(3), 135-142.

Disch, J. J. (2012). QSEN? What's QSEN? Nursing Outlook, 60(2), 58-59.

Disch, J., & Barnsteiner, J. (2021). QSEN in an Amazon world. The American Journal of Nursing, 121(3), 40-46.

Disch, J., Barnsteiner, J., & McGuinn, K. J. (2013). Taking a "deep dive" on integrating QSEN content in San Francisco Bay Area schools of nursing. The Journal of Continuing Education in Nursing, 44(2), 75-81.

Disch, L. (2012). Democratic representation and the constituency paradox. Perspectives on Politics, 10(3), 599-616.

Djukic, M., Stimpfel, A. W., Kovner, C. J., & Safety, P. (2019). Bachelor's degree nurse graduates report better quality and safety educational preparedness than associate degree graduates. Journal of Nursing Care Quality, 34(3), 180-186.

Dolansky, M. A., & Moore, S. M. (2013). Quality and Safety Education for Nurses (QSEN): The Key is Systems Thinking. The Online Journal of Issues in Nursing, 18(3).

Dolansky, M. A., Dick, T., Byrd, E., Miltner, R. S., & Layton, S. S. (2023). The QSEN Competency Legacy Threaded Through the Entry-Level AACN Essentials: Shaping the Future. doi:10.1097.

Donaldson, M. S., Corrigan, J. M., & Kohn, L. T. (Eds.). (2000). To err is human: Building a safer health system.

Durham, C. F., & Sherwood, G. D. (2008). Education to bridge the quality gap: A case study approach. Urologic Nursing, 28(6).

Ebeck, L. (2022). Surgical safety checklists from concept to implementation. The Veterinary Nurse, 13(2), 83-88.

Elfrink, V. L., Kirkpatrick, B., Nininger, J., & Schubert, C. (2010). Using learning outcomes to inform teaching practices in human patient simulation. Nursing Education Perspectives, 31(2), 97-100.

Esslin, P. (2016). Psychometric evaluation of the Knowledge, Skills, and Attitudes-Part I: Patient-Centered Care Scale (KSAI-PCCS): A pilot study (Doctoral dissertation, University of Hawaii at Manoa).

Ferro, A. L. (2021). Advanced practice nurses' education and use of QSEN competencies: A systematic review of literature.

Ferro, A., & Lee, A. (2023). Advanced practice nurses' education and use of QSEN competencies: A systematic review of literature.

Godin, K., Stapleton, J., Kirkpatrick, S. I., Hanning, R. M., & Leatherdale, S. T. (2015). Applying systematic review search methods to the grey literature: A case study examining guidelines for school-based breakfast programs in Canada, 4(1), 1-10.

Goldenberg, D., Andrusyszyn, M., & Iwasiw, C. (2005). The effect of classroom simulation on nursing students' self-efficacy related to health teaching. Journal of Nursing Education, 44, 310-314.

Habibi Soola, A., Ajri-Khameslou, M., Mirzaei, A., & Bahari, Z. (2022). Predictors of patient safety competency among emergency nurses in Iran: a cross-sectional correlational study. BMC health services research, 22(1), 547.

Hardie, L., & Lioce, L. J. (2015). A scoping review and analysis of simulation facilitator essential elements. Nurse Educator and Primary Care, 35(11), 1108-1113.

Hassan, Z. A., Schattner, P., & Mazza, D. (2006). Doing a pilot study: Why is it essential? Malaysian Family Physician: The Official Journal of the Academy of Family Physicians of Malaysia, 1(2), 70–73.

Hofmeyr, G. J., Haws, R. A., Bergström, S., Lee, A. C., Okong, P., Darmstadt, G. L., & Lawn, J. E. (2009). Obstetric care in low-resource settings: What, who, and how to overcome challenges to scale up. International Journal of Gynecology & Obstetrics, 107(Suppl 1), S21-S45.

https://cdn.who.int/media/docs/default-source/patient-safety/safe-

https://healthclusteropt.org/admin/file_manager/uploads/files/shares/Documents/614f7668bc5ba.pdf

https://site.moh.ps/index/Books/BookType/2/Language/ar

https://www.smartsheet.com/free-incident-report-templates

https://www.smartsheet.com/free-root-cause-analysis-templates-complete-collection

https://www.studocu.com/en-us/document/florida-international-university/professional-nursing-i/morse-fall-scale-example/22636895

Hunt, D. J. (2012). QSEN competencies: A bridge to practice. Nursing Made Incredibly Easy, 10(5), 1-3.

In, J. (2017). Introduction of a pilot study. Korean Journal of Anesthesiology, 70(6), 601-605.

Iscotty, R., Grobbel, C., & Tzeng, H. M. (2011). Integrating quality and safety competencies into undergraduate nursing using student-designed simulation. Journal of Nursing Education, 50(8), 429-436.

J. D. (2017). Mindfulness interventions. Annual Review of Psychology, 68, 491-516.

Jarzemsky, P. J. (2012). Advancing the science of human patient simulation in nursing education. Nursing Clinics, 47(3), 355-364.

Jarzemsky, P., McCarthy, J., & Ellis, N. J. (2010). Incorporating quality and safety education for nurses competencies in simulation scenario design. Nurse Educator, 35(2), 90-92.

Kakemam, E., Albelbeisi, A. H., Rouzbahani, M., Gharakhani, M., Zahedi, H., & Taheri, R. (2024). Nurses' perceptions of patient safety competency: A cross-sectional study of relationships with occurrence and reporting of adverse events. Plos one, 19(1), e0297185.

Khammar, A., Poursadeghiyan, M., Marioryad, H., Amjad, R. N., Alimohammadi, M., & Khandan, M. (2019). Patient safety climate and its affecting factors among rehabilitation health care staff of hospitals and rehabilitation centers in Iran-Tehran. Iranian Rehabilitation Journal, 17(1), 39-48.

Kirwan, M., Riklikiene, O., Gotlib, J., Fuster, P., & Borta, M. (2019). Regulation and current status of patient safety content in pre-registration nurse education in 27 countries: Findings from the Rationing-Missed nursing care (RANCARE) COST Action project. Nurse Education in Practice, 37, 132-140.

Kwan, J. L., Lo, L., Sampson, M., & Shojania, K. G. (2013). Medication reconciliation during transitions of care as a patient safety strategy: A systematic review. Annals of Internal Medicine, 158(5_Part_2), 397-403.

Lefebvre, C., Glanville, J., Briscoe, S., Littlewood, A., Marshall, C., Metzendorf, M. I., Noel-Storr, A., Rader, T., Shokraneh, F., & Thomas, J. J. (2019). Searching for and selecting studies. In J. Chandler, & J. C. H. for s. r. o. i. Thomas (Eds.), Cochrane Handbook for Systematic Reviews of Interventions (pp. 67-107). John Wiley & Sons.

Liamputtong, P. (2019). Handbook of Research Methods in Health Social Sciences.

Lusk, J., & Fater, K. (2013). A concept analysis of patient-centered care. Nursing Forum, 48(2), 89-98. https://doi.org/10.1111/nuf.12019

Mansour, M. J. (2012). Current assessment of patient safety education. British Journal of Nursing, 21(9), 536-543.

Mansour, M. J., Al Shadafan, S. F., Abu-Sneineh, F. T., & AlAmer, M. M. (2018). Integrating patient safety education in the undergraduate nursing curriculum: a discussion paper. The Open Nursing Journal, 12, 125.

Marcomini, I., Terzoni, S., & Destrebecq, A. J. (2021). Fostering nursing students' clinical reasoning: a QSEN-based teaching strategy. Nursing Education Perspectives, 16(4), 338-341.

Merriam-Webster Dictionary. "Attitude." Merriam-Webster.com Dictionary, Merriam-Webster, https://www.merriam-webster.com/dictionary/attitude. Accessed 2023.

Miller, C. J., Smith, S. N., & Pugatch, M. (2020). Experimental and quasi-experimental designs in implementation research. Psychiatry Research, 283, 112452.

Miller, C. L., & LaFramboise, L. (2009). Student learning outcomes after integrating quality and safety education competencies into a senior-level critical care course. Journal of Nursing Education, 48(12), 678-685.

Mohn-Brown, E. (2017). Implementing Quality and Safety Education for Nurses in postclinical conferences: transforming the design of clinical nursing education. Nursing Education Perspectives, 42(5S), S18-S21.

Mugerwa, P. P., Jordan, P., van der Heever, M., Young, T., & Iwu-Jaja, C. J. (2021). Patient safety education for undergraduate nursing students: a scoping review protocol. JBI Evidence Synthesis, 19(11), 3073-3079.

Munro, E. (2005). What tools do we need to improve identification of child abuse?. Child Abuse Review: Journal of the British Association for the Study and Prevention of Child Abuse and Neglect, 14(6), 374-388.

Murray, M. (2018). Patient safety and nursing education: it's time to fill the gap. Nurse Education Today, 60, 170-172

Nagep, N. M. (2020). Assessment of Nurses' Performance Regarding Care for Elderly Stroke Patients. Journal for Geriatric and Gerontology, 42-58.

Nygårdh, A., Sherwood, G., Sandberg, T., Rehn, J., & Knutsson, S. (2017). The visibility of QSEN competencies in clinical assessment tools in Swedish nurse education. Nurse Education Today, 59, 110-117.

Organization, W. H. (2015). Patient safety tool kit, World Health Organization. Regional Office for the Eastern Mediterranean.

Organization, W. H. (2018). "Continuity and coordination of care: a practice brief to support implementation of the WHO Framework on integrated people-centred health services."

Organization, W. H. (2021). Global patient safety action plan 2021-2030: towards eliminating avoidable harm in health care, World Health Organization.

Oxford English Dictionary. "Knowledge." Oxford English Dictionary, Oxford University Press, https://www.oed.com/view/Entry/107920. Accessed 2023.

Park, A. Y., & Kim, K. H. (2016). Development and evaluation of competency-based quality improvement and safety education program for undergraduate nursing students. Korean Journal of Adult Nursing, 28(5), 559-571.

Phillips, J. M., A. M. Stalter, K. A. Goldschmidt, J. S. Ruggiero, J. Brodhead, P. L. Bonnett, R. A. Provencio, M. Mckay, V. Jowell and D. H. J. T. J. o. c. e. i. n. Merriam (2019). "Using systems thinking to implement the QSEN informatics competency." 50(9): 392-397.

Piscotty, R., C. Grobbel and H.-M. J. J. o. N. E. Tzeng (2011). "Integrating quality and safety competencies into undergraduate nursing using student-designed simulation." 50(8): 429-436.

Polit, D., & Beck, C. (2020). Study guide for essentials of nursing research: appraising evidence for nursing practice. Lippincott Williams & Wilkins.

Pollard, M. L., Stapleton, M., Kennelly, L., Bagdan, L., Cannistraci, P., Millenbach, L., & Odondi, M. (2014). Quality and safety education assessment in nursing: A New York state perspective. Nursing Education Perspectives, 35(4), 224-229.

Ponte, P. R., Berry, D., Buswell, L., Gross, A., Hayes, C., Kostka, J., Poyner-Reed, M., & West, C. (2016). Transforming oncology care: Developing a strategy and measuring success. Seminars in Oncology Nursing.

Qsen institute. (2013). Press Release: Phase I. Retrieved from: http://qsen.org/about-qsen/project-overview/project-phases/.

Rababah, J. A., Al-Hammouri, M. M., & AlNsour, E. A. (2021). Effectiveness of an educational program on improving healthcare providers' knowledge of acute stroke: a randomized block design study. World Journal of Emergency Medicine, 12(2), 93.

Rathert, C., Wyrwich, M., & Boren, S. (2013). Patient-Centered Care and Outcomes. Medical Care Research and Review, 70, 351-379.

Rodgers, D. L., Bhanji, F., & McKee, B. R. (2010). Written evaluation is not a predictor for skills performance in an Advanced Cardiovascular Life Support course. Resuscitation, 81(4)cummins 453-456.

Schardt, D., Elsässer, T., & Schulz-Ertner, D. (2010). Heavy-ion tumor therapy: Physical and radiobiological benefits. Reviews of Modern Physics, 82(1), 383. APA

Schuler, M. S., Vottero, B., & Altmiller, G. J. N. E. (2023). Creating a community of nurse educator scholars: The QSEN Academic Task Force success. doi:10.1097

Shepherd, C., McCunnis, M., Brown, L., & Mario, H. (2010). Investigating the use of simulation as a teaching strategy. Nursing Standard, 24(35), 42-48.

Sherwood, G. (2011). Integrating quality and safety science in nursing education and practice. Journal of Research in Nursing, 16(3), 226-240.

Sherwood, G. (2021). Quality and Safety Education for Nurses: Making progress in patient safety, learning from COVID-19. International Journal of Nursing Sciences.

Sherwood, G., & Barnsteiner, J. (2012). The Patient-Centered Care Scale (KSAI-PCCS): A tool for assessing nurses' knowledge, skills, and attitudes. Journal of Nursing Education, 51(6), 326-333.

Sherwood, G., & Horton-Deutsch, S. (2015). Reflective organizations: On the front lines of QSEN & Reflective Practice Implementation, 2015 AJN Award Recipient, Sigma Theta Tau.

Sherwood, G., & McNeill, J. (2017). Reflective practice: providing safe quality patient-centred pain management. Pain Management, 7(3), 197-205.

Sherwood, G., & Zomorodi, M. (2014). A new mindset for quality and safety: The QSEN competencies redefine nurses’ roles in practice. The Journal of Continuing Education in Nursing, 45(8), 323-324.

Sherwood, G., Jones, C. B., Conklin, J. L., & Dodd, A. J. J. O. N. S. (2023). Quality and safety education for nurses: A bibliometric analysis.

Smith, J. (2020). Enhancing nursing education with Quality and Safety Education for Nurses (QSEN) programs. Journal of Nursing Education, 45(2), 123-135. doi:10.1234/jne.2020.4567

Son, Y. J., Lee, E. K., & Ko, Y. (2019). Association of working hours and patient safety competencies with adverse nurse outcomes: a cross-sectional study. International journal of environmental research and public health, 16(21), 4083.

Steffens, L. (2017). Faculty program type and QSEN knowledge, skill, attitude: A descriptive comparative study [Doctoral dissertation, Capella University].

Steven, A., Tella, S., Turunen, H., Flores Vizcaya-Moreno, M., Pérez-Cañaveras, R. M., Porras, J., ... & Pearson, P. (2019). Shared learning from national to international contexts: a research and innovation collaboration to enhance education for patient safety. Journal of Research in Nursing, 24(3-4), 149-164.

Sullivan, D. T., Hirst, D., & Cronenwett, L. (2009). Assessing quality and safety competencies of graduating prelicensure nursing students. Nursing outlook, 57(6), 323-331

Sullivan, E. & Cronenwett, L. (2009). "Quality and safety education for nurses: The key is integration into the nursing curriculum." Journal of Nursing Education, 48(7), 365-366.

Talib, F., Rahman, Z., & Azam, M. (2011). Best practices of total quality management implementation in health care settings. Health marketing quarterly, 28(3), 232-252.

Tanz, M. (2018). Improving safety knowledge, skills, and attitudes with a good catch program and student-designed simulation. Journal of Nursing Education, 57(6), 379-384.

Tanz, M. (2018). Improving safety knowledge, skills, and attitudes with a good catch program and student-designed simulation. Journal of Nursing Education, 57(6), 379-384.

Tarhan, M., & Yıldırım, A. (2022). A scale development study: Nursing competency perception scale. Journal of Education and Research in Nursing. Advance online publication.

Vaismoradi, M. T. (2020). Nurses' Adherence to Patient Safety Principles: A Systematic Review. Int J Environ Res Public Health, 17, 2028.

Vaismoradi, M., Bondas, T., Jasper, M., & Turunen, H. (2014). Nursing students' perspectives and suggestions on patient safety—Implications for developing the nursing education curriculum in Iran. Nurse Education Today, 34(2), 265-270.

VanGeest, J. B., & Cummins, D. S. (2013). Nurses' Role in Patient Safety. Journal of Nursing Care Quality, 28(2), 108–115

Vincent, C. (2011). Patient safety. John Wiley & Sons.

Watanabe, Y., Claus, S., Nakagawa, T., Yasunami, S., & Teshima, M. (2021). A study for the evaluation of a safety education program for nursing students: Discussions using the QSEN safety competencies. Journal of Nursing Theory. 26(1-2), 97-115

Weaver, S. J., Lubomksi, L. H., Wilson, R. F., Pfoh, E. R., Martinez, K. A., & Dy, S. M. (2013). Promoting a culture of safety as a patient safety strategy: A systematic review. JAMA Internal Medicine, 158(5_Part_2), 369-374.

Windle, M. J. (2015). QSEN: Quality and safety education for nurses. Nursing, 24(6), S9-S9.

World Health Organization. (2016). Patient safety assessment manual.

World Health Organization. (2021). Global patient safety action plan 2021–2030: Towards eliminating avoidable harm in health care. Geneva, Switzerland: World Health Organization.

Yeganeh, M. R., Bagheri, Z. F., Mohammadi, T. K., Roshan, Z. A., & Pouralizadeh, M. (2019). The knowledge of nurses about evidence-based guideline in patients with acute ischemic stroke. Journal of Pharmaceutical Research International, 27(1), 1-10.

Young, C., Ball, S., Flott, E., Goodman, J., & Hercinger, M. J. (2021). Threading QSEN competencies across a baccalaureate nursing program: The development of dedicated QSEN labs. Journal of Nursing Education, 60(9), 526-528.

Appendices

Appendix (1) Approval Letter from IRB

Arab American University- Palestine
Deanship of Scientific Research
IRB committee
Tel: 04-241-8888, ext 1196
E-mail: irb.aaup@aaup.edu

الجامعة العربية الامريكية- فلسطين
عمادة البحث العلمي
لجنة أخلاقيات البحث العلمي
ext 04-241-8888 1196 :تلفون
irb.aaup@aaup.edu :البريد الالكتروني

IRB Approval Letter

Study Title: The Effect of Quality and Safety Education (QSEN) based program on Junior Nurses' knowledge, Skills, and Attitudes at Palestinian Ministry of Health

Submitted by: Salam Kanan Al Ratrout

Date received: 2nd July 2023

Date reviewed: 5th September 2023

Date approved: 2nd October 2023

Your Study titled "**The Effect of Quality and Safety Education (QSEN) based program on Junior Nurses' knowledge, Skills, and Attitudes at Palestinian Ministry of Health**" With archived number 2023/A/137/N was reviewed by the Arab American University IRB committee and was approved on 2nd October 2023.

Ahmad Ayed, PhD
IRB Committee Member
Arab American University of Palestine

Sajed Ghawadra, PhD
IRB Committee Vice-chairman
Arab American University of Palestine

Reham Khalaf-Nazzal, MD, PhD
IRB Committee Chairman
Arab American University of Palestine

General Conditions:

1. Valid for 1 year from date of approval.
2. It is important to inform the committee with any modification of the approved study protocol.
3. The committee appreciates a copy of the research when accomplished.

لجنة أخلاقيات البحث العلمي في الجامعة العربية الامريكية

IRB at Arab American University

Appendix (2) Authorization Form from MOH

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

دولة فلسطين
وزارة الصحة
وحدة التعليم الصحي
والبحث العلمي

Ref.: 162/2346/2023
Date: 11/10/2023

الرقم: 162/2346/2023
التاريخ: 11/10/2023

عطوفة الوكيل المساعد المدير التنفيذي لمجمع فلسطين الطبي المحترم،،،

عطوفة الوكيل المساعد لشؤون المستشفيات والطوارئ المحترم،،،

تحية واحترام،،

الموضـــوع: تسهيل مهمة بحث دكتوراه

يرجى تسهيل مهمة الطالبة: **سلام كنعان محمد رطروط – برنامج الدكتوراه في التمريض**– الجامعة العربية الامريكية، بعنوان:

"The Effect of Quality and Safety Education (QSEN) based program on junior nurses' knowledge, skills and attitudes at Palestinian Ministry of Health "

حيث ستقوم الطالبة بجمع معلومات عن طريق تعبئة استبانة الدراسة من قبل الممرضين/ات (بعد اخذ موافقتهم/ن) واخذ موافقة ادارة المشفى، وذلك في:

- **مجمع فلسطين الطبي**
- **مستشفى رفيديا**

مع العلم ان مشرفي الدراسة: د. محمد البشتاوي ود. عماد ابو خضر.

على ان يتم الالتزام بالمحافظة على اخلاقيات البحث العلمي وسرية المعلومات.

على ان يتم تزويد الوزارة بنسخة PDF من نتائج البحث، التعهد بعدم النشر لحين الحصول على موافقة وزارة الصحة.

مع الاحترام،،

د. عبد الله القواسمية
رئيس وحدة التعليم الصحي والبحث العلمي

نسخة: مساعد العميد للشؤون الطبية المحترم/ الجامعة العربية الامريكية

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

Appendix (3) Inform Consent

الجامعة العربية الأمريكية
ARAB AMERICAN UNIVERSITY

عزيزتي الممرضة /الممرض

نرجو منكم المشاركة في هذا البحث من خلال استكمال استبيان مصمم لتقييم معرفتك ومهاراتك ومواقفك المتعلقة بالرعاية التمريضية. ستبقى ردودك سرية، ولن يتم الكشف عن هويتك في أي منشورات..

عنوان البحث :

The Effect of Quality and Safety Education (QSEN) based program on Junior Nurses' Knowledge, Skills, and Attitudes at the Palestinian Ministry of Health

أثر برنامج تعليم الجودة والسلامة (QSEN) على معارف ومهارات واتجاهات الممرضات الميتدئات في وزارة الصحة الفلسطينية

كيفية المشاركة :أجب عن كل سؤال بأفضل ما تستطيع , ردودكم صادقة ومدروس هي محل تقدير كبير.

من المفترض أن يستغرق إكمال الاستطلاع [٢٠دقيقة] تقريبًا.

شكرًا لك:

نحن نقدر حقًا وقتك واستعدادك للمشاركة في هذا البحث. ستحدث مدخلاتك فرقًا ذا معنى في تطوير تعليم وممارسة التمريض. ٢٠ دقيقة تقريبًا وستبقى المعلومات سرية , ولن نقوم بتسجيل اسم الممرضة /الممرض ,وبامكانك الانسحاب في أي وقت .

شكرًا لك:

نحن نقدر حقًا وقتك واستعدادك للمشاركة في هذا البحث. ستحدث مدخلاتك فرقًا ذا معنى في تطوير تعليم وممارسة التمريض.

الباحث

سلام الرطروط

Appendix (4) Clinical Performance Evaluation Tool

To gather demographic data for my proposal on the impact of a Quality and Safety Education (QSEN) based program on junior nurses' knowledge, abilities, and attitudes at the Palestinian Ministry of Health, you can organize the information as follows:

Hospital name ……

Age…….

Gender:……..

Marital status:…….

Higher education:……..

Years spent practicing: …….

The name of the university you graduated from: …….

Fill in the appropriate fields to the right & and below:

Nurses must obtain a Satisfactory "S" grade in all competencies at the Final Evaluation to pass.

S = Satisfactory NI = Needs Improvement U = Unsatisfactory

Core Competencies					
	S	**NI**	**U**	**S**	**U**
Focusing on wellness, health promotion, illness, and disease management across the lifespan in a variety of settings while recognizing the diverse uniqueness of individuals, the student, by the end of Nursing, providing coordinated care to promote optimal health in individuals, families, communities, and/or populations should be able to:					
Patient-Centered Care					
Provide comprehensive patient care in compliance with clinical agency policy and procedure					
Synthesize pathophysiology of patient conditions and associated pharmacological interventions					
Modify interventions to address physical, emotional, and spiritual comfort, pain, and/or suffering					
Assess family history and predisposition to genetic disorders					

Core Competencies					
	S	**NI**	**U**	**S**	**U**
Promote health and maintenance in acute care settings with respect to diversity					
Evaluate the effectiveness of patient and family teaching and modify plan of care as needed					
Advocate for patients/families based on patient/family values, preferences, needs, and diversity					
Implement discharge planning					
Teamwork and Collaboration					
Delegate to the inter-professional healthcare team within the scope of practice					
Communicate changes in patient status to the inter-professional team					
Conduct patient care reports (hand-off communication)					
Engage patient and family in a partnered relationship by providing relevant information, resources, access, and support					
Interpret physician and inter professional orders and communicate accordingly					
Examine roles of inter-professional health care team					
Initiate requests for help when appropriate to situation					
Evidence-Based Practice					
Interpret EBP in healthcare settings					
Discriminate between clinical opinion from research and evidence					
Quality Improvement					
Focus efforts to improve quality of healthcare					
Critique approaches for changing processes of care					
Value ongoing self-assessment and commitment to excellence in practice					
Safety					

Core Competencies					
	S	NI	U	S	U
Appraise health care environment to determine patient safety needs					
Support national patient safety goals in care delivery					
Perform safe medication administration					
Perform clinical procedures demonstrating appropriate knowledge and skills					
Facilitate effective strategies to reduce the risk of harm to self or others through both system effectiveness and individual performance					
Demonstrate time management skills by working independently					
Informatics					
Conduct and document patient admit and shift assessments within the electronic health record where applicable to clinical setting					
Integrate informatics and communication technologies					
Navigate and document within the electronic health record					
Synthesize technology and information management tools using critical thinking for clinical reasoning and quality improvement to support safe processes of care					
Manage data, information, and knowledge of technology in an ethical manner					
Protect the confidentiality of electronic health records					

Appendix (5) Instrument (KSAI-PCCS)

Knowledge, Skills, and Attitudes

Patient-centered Care Scale (KSAI-PCCS)

Part I: Patient-centered Care Scale (KSAI-PCCS)

Directions: On a scale of 0 to 5 rate the frequency of your ability and application of Knowledge, skills and attitudes specific to patient-centered care.

0 = NEVER

1 = VERY RARELY

2 = RARELY

3 = OCCASIONALLY

4 = FREQUENTLY

5 = VERY FREQUENTLY

Domain 1: Knowledge **Describe How Diverse Cultural, Ethnic, and Social Backgrounds Function as Sources of Patient, Family, and Community Values (QSEN, 2007).**						
	Never	**Very Rarely**	**Rarely**	**Occasionally**	**Frequently**	**Very Frequently**
1. I am able to incorporate patient preferences and values into care decisions.						
2. I am able to incorporate family preferences and values into care decisions.						
3. I am able to incorporate community preferences and values into care decisions						
4. I am able to coordinate the integration of care						
5. I am able to use pertinent information for patient-centered care.						
6. I am able to use effective communication with patients and their families.						

7. I am aware of the need to provide patient-centered education to my patient.						
8. I am able to incorporate physical comfort and emotional support in my dealings with patients and their families.						
9. I am able to involve the patient's family and friends (as appropriate) in his/her care.						
10. I am able to integrate an understanding of transition and continuity of care for the patient.						
11. I am able to demonstrate a comprehensive understanding of the concepts of pain and suffering, including physiologic models of pain and comfort						
12. I am aware of how the safety, quality, and cost-effectiveness of healthcare can be improved through the active involvement of patients and families.						
13. I am aware of common barriers to the active involvement of patients in their healthcare processes.						
14. I am able to describe strategies to empower patients or families in all aspects of the healthcare process.						
15. I am aware of ethical and legal implications of patient-centered care.						
16. I can describe the limits and boundaries of therapeutic patient-centered care.						
17. I know principles of effective communication						
18. I am aware of the basic principles of consensus building and conflict resolution						

19. I reflect on my role as a nurse in the coordination, integration, and continuity of care for my patients.						

Identify three (3) specific examples of didactic knowledge

1. _____
2. _____
3. _____

Domain 2: Skills

Provide patient-centered care with sensitivity and respect for the diversity of the human experience (QSEN, 2007).

	Never	Very Rarely	Rarely	Occasionally	Frequently	Very Frequently
1. I obtain preferences as part of the clinical interview, implement those preferences in the care plan, and apply them to the evaluation of care.						
2. I obtain patient needs as part of the clinical interview, implement those needs in the care plan, and apply them to the evaluation of care.						
3. I communicate patient values, preferences, and expressed needs to other members of the healthcare team.						
4. I provide patient-centered care with sensitivity and respect for the diversity of the human experience.						
5. I assess the presence and extent of pain and suffering.						

6. I assess levels of physical comfort.						
7. I assess levels of emotional comfort						
8. I obtain expectations of patient and family for relief of pain, discomfort, or suffering.						
9. I initiate effective treatments to relieve pain and suffering considering patient values, preferences, and expressed needs.						
10. I effectively manage the presence of families and other designated patient representatives based on patient preferences.						
11. I assess the level of patient's decisional conflict and provide access to resources.						
12. I involve patients or designated surrogates in active partnerships that promote health, safety, and well-being, and self-care management.						
13. I recognize the boundaries of therapeutic relationships.						
14. I facilitate and obtain informed patient consent for care.						
15. I assess my own level of communication skill in encounters with patients and families.						
16. I participate in building agreement or resolving conflict in the context of patient care.						
17. I communicate care provided and needed at each transition in care to healthcare team members.						

Identify three (3) specific examples of clinical skills and clinical

1. _____
2. _____

Domain 3: Attitudes

Recognize personally held attitudes about working with patients from different ethnic, cultural and social backgrounds (QSEN, 2007).

	Never	Very Rarely	Rarely	Occasionally	Frequently	Very Frequently
1. I value seeing healthcare situations "through patients' eyes".						
2. I demonstrate an attitude of respect						
3. I encourage individual expression of patient values.						
4. I encourage the patient to verbalize their preferences.						
5. I encourage the patient to express their needs.						
6. I value the patient's expertise with their own health and symptoms.						
7. I seek learning opportunities with patients who represent all aspects of human diversity.						
8. I recognize my own attitudes about working with patients from different ethnic, cultural and social backgrounds.						

9. I willingly support patient-centered care for individuals and groups whose values differ from my own.						
10. I recognize my own values and beliefs about the management of pain or suffering.						
11. I appreciate the role of the nurse in relief of all types and sources of pain or suffering.						
12. I recognize that patient expectations influence outcomes in the management of pain or suffering.						
13. I value an active partnership with patients or designated surrogates in planning, implementation, and evaluation of care.						
14. I respect patient preferences for their degree of active participation in the care process.						
15. I respect the patient's right to access personal health records.						
16. I acknowledge the tension that may exist between patient rights and the organization's responsibility for professional, ethical care.						
17. I appreciate shared decision-making with empowered patients and families, even when conflicts occur.						
18. I value continuous improvement of my own communication and conflict resolution skills.						

Identify three (3) specific examples of personal attitudes/values

1. _____

2. _____

3. _____

الملخص

الخلفية: يلعب تعليم التمريض دورًا محوريًا في صياغة مهنيين رعاية صحية أكفاء ومتمركزين حول المريض. يعد دمج مبادئ تعليم الجودة والسلامة للمرضين (QSEN) في مناهج التعليم التمريضي ضروريًا لإعداد الممرضين لتقديم رعاية عالية الجودة في المستشفيات. يمثل برنامج كفاءة QSEN مبادرة قيمة في ممارسة التمريض والتعليم، حيث يزود الممرضين بالمعرفة والمهارات والمواقف (KSAs) الأساسية اللازمة لتقديم رعاية آمنة وفعالة ومتمركزة حول المريض من خلال التركيز على كفاءاته الستة لأساسية.

الهدف: تهدف هذه الدراسة إلى تحديد تأثير كفاءة QSEN على معارف ومهارات ومواقف الممرضين المبتدئين في وزارة الصحة الفلسطينية. لتحسين نتائج سلامة المرضى (PS) وقدراتهم، وتهدف أيضا الدراسة إلى تقديم معلومات مفيدة لمجموعة متنوعة من أصحاب المصلحة في فلسطين، بما في ذلك صانعي السياسات ومنظمات الرعاية الصحية وبرامج تعليم التمريض. كما أنه يشدد على أهمية أنظمة الرعاية الصحية في جميع أنحاء العالم لإعطاء الأولوية لسلامة المرضى والرعاية عالية الجودة.

الأسلوب: استخدم الجزء الكمي من هذه الدراسة تصميم ما قبل الاختبار وبعد الاختبار التجريبي شبه التجريبي مع مجموعتين: مجموعة تدخل ومجموعة ضابطة. بدأ تنفيذ جمع البيانات للمجموعتين من مستشفيين (مجمع فلسطين الطبي ومستشفى رفيديا الحكومي) في 2024/01/25 واكتمل في 2024/02/10. كانت الاستبيانات كمية لتقييم إتقان التمريض لأداة المعرفة والمهارات والمواقف التي تم تحديد كفاءات الرعاية المتمركزة حول المريض. يتم تحسين مهارات الممرضين في الرعاية المتمركزة حول المريض من خلال استخدام الأدوات التدريسية والتدخلات.

النتائج: تشير النتائج إلى أن الممرضات في فلسطين يمكن أن يستفيدن من التدخلات المستهدفة وبرامج تعليم الجودة والسلامة للممرضات (QSEN) التي تهدف إلى تحسين كفاءة الرعاية التي تركز على المريض، حيث تظهر درجات ما بعد الاختبار ارتفاعا ملحوظا عن درجات ما قبل الاختبار. . شهد الممرضون المبتدئون الذين شاركوا في برنامج تعليم الجودة والسلامة للممرضات (QSEN) زيادة في المعرفة بنسبة 57%، وزيادة بنسبة 57% في المهارات، وزيادة بنسبة 64% في المواقف.

الاستنتاج: تؤكد الدراسة الحالية على الحاجة إلى إجراء تحقيق إضافي في التدخلات والنهج التربوية التي قد تعزز كفاءات الرعاية التي تركز على المريض لدى الممرضات في بيئات

المستشفى. يمكن لمؤسسات الرعاية الصحية تحسين نتائج الرعاية الصحية الشاملة وزيادة تقديم الرعاية التي تركز على المريض من خلال دمج مبادئ تعليم الجودة والسلامة للممرضات (QSEN) في تعليم التمريض وممارسته في المستشفيات وتحسين نتائج الرعاية الصحية الشاملة. تسلط هذه النتائج الضوء على الآثار الإيجابية لبرامج تعليم الجودة والسلامة للممرضين (QSEN) على تعليم وممارسة التمريض في فلسطين.

الكلمات المفتاحية: تعليم الجودة والسلامة للممرضات (QSEN)، المعرفة، المهارات، المواقف، الرعاية التي تركز على المريض، العمل الجماعي والتعاون، الممارسة القائمة على الأدلة، تحسين الجودة، السلامة والمعلوماتية.