



Knowledge and Attitude About Patient Safety among Nurses at Public Hospitals in Sana'a –City - Yemen

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Researchers*

Abdul Majeed Nasser Hussein Al-Amroori

Ahmed Hussein. Ahmed Ali Alnomery

Abdul Halim Yahya Yahya Sowlan

Aisha Hameed Hamod Hassan Alkowlf

Etab Theyazan Fadel Ali Al_kaboudi

Evan Ali Saleh Ali Al_Hassamh

Hanan Ahmed Abdulrahman Abdo

Tahany Naji Saleh Aljabri

Mohammed abdu jubran oss

Salah Abdul-latif Abdul Al-Qawsi

Taghreed Mohammed Musleh Alawadi

Yahya Ahmed Ahmed Ali khamosi

Supervisor

Dr. Fares Ali Mohammed Mahdi

Assistant professor of Family and Community
Health Nursing

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الاستهلال



Dedication

*We dedicate this research paper to Allah almighty my
creator my strong Pillar my source of inspiration wisdom
knowledge and understanding. He has been the source of my
strength throughout this program*

*This research dedicates to our parents, whose affection, love,
encouragement, and pray of day and night make us able to
get such success and honor. For being our guardians and for
their continues care. Our sincerest, thanks for all teachers
one by one, who taught us from the first year in the school
till the end of our journey in this collage, thanks for given us
part of your precious time.*

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LIST OF ABBREVIATIONS

Abbreviation	Term
WHO	World Health Organization
HRMs	High-reliability models
PS	Patient safety
HOPs	Handoff” or handover process
ACGME	Accreditation Council for Graduate Medical Education
ICU	Intensive care unit
EMR	Electronic medical record
SBAR	Situation, Background, Assessment, Recommendation
US	United states

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ABSTRACT

Background: Patient safety is an important topic of national and international priority in delivering. World Health Organization (2019) reported the incident of adverse events led to one of 10 causes of mortality and disability due to unsafe care

The aim of the study: To assess the knowledge and attitude about patient safety among nurses at public hospitals in Sana'a –City.

Method: A cross-sectional survey. Interviewer administered structured questionnaire was used to collect data from a sample of (213) nurses.

Results: In present study majority (65.7%) of the research sample members were between 20 and 30 years old and more than half (58.2%) of them have a 3-year practical qualification (diploma) in nursing. Most (66.2%) of the sample members had less than 5 years of experience in government hospitals and (66.7%) of them attended training programs and courses related to patient safety and duration ranged from (3-6 days) (28.2%). More than half (59.6%) of nurses were agree attitude and (25.3%) of them were neutral while (15.4%) of nurses were disagree.

Conclusion: there is statistically significant differences between nurses' knowledge and attitudes about patient safety standards according to the variable of (Working Period), due to the value of Significant is $(0.004) < 0.05$.

Keyword: *Knowledge, Attitude, Patient Safety, Nurses, public hospitals, Yemen.*

CHAPTER ONE: INTRODUCTION

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1.1. Background of the Study

Patient safety is an important topic of national and international priority in delivering. World Health Organization (2019) reported the incident of adverse events led to one of 10 causes of mortality and disability due to unsafe care. This challenges hospital management, an increasing number of incidents and essential issues. Registered nurses must possess good knowledge and attitude toward patient safety and play an important role in providing quality patient care during hospitalization (*Jamal et al., 2022*).

Patient safety can be defined as the prevention of patient injuries or adverse events that could occur during health care delivery. It is one of the dimensions of care (*Panattieri et al., 2019*). It is multifaceted, quite complex in nature and includes several key elements. The conversion of patient safety into a specific body of knowledge is relatively latest and thus it may be considered as a relatively new discipline. But, its concern is inherent to the practice of the health care professions (*Asem et al., 2019*).

Patient safety is a health care discipline that occurs with the developing difficulty in health care systems and the leading increase of patient harm in healthcare institutions. The purpose was to avoid and decrease the risks, errors, and harm that happen to patients during the provision of health care (*WHO., 2021*).

According to current estimates, poor countries suffer more damage from unsafe medical care than developed countries do (*WHO., 2021*). Inclusion of lessons on patient safety for health professionals in higher educational programs is not at the required level (*Mohammed et al., 2023*).

According to the WHO report, the incidence of adverse events because of unsafe care is one of the 10 leading causes of mortality and disability globally. In low- and middle-income countries, about 134 million adverse events happen in hospitals because of

unsafe care, which leads to 2.6 million deaths each year. Up to 4 in 10 patients are harmed in primary and outpatient health care globally, of which about 80% of the harm is avoidable (*Mohammed et al., 2023*).

Indicating that nursing can contribute to patient safety due to insufficient knowledge and noncompliance. The influence of patient safety education on health care worker and evaluations of patient safety knowledge and attitude have received little attention locally. Thus, a cross-sectional survey study investigation at public hospitals to assess patient safety knowledge and attitude, were conducted in a clinical setting. Subsequently, the study result can be used to education nurses and health care worker and improving nurses and health care worker patient safety compliance could potentially the incidence of patient safety knowledge and attitude, which would prevent Medical errors, occurrence of preventable adverse associated with health care and to limit the impact of inevitable adverse events and save lives.

1.2. Problem Statement

Patient safety is perceived as a rising essential issue in healthcare field, and the increase in the numbers of patient safety incidents leads to a challenge for hospital management. It is a worldwide problem where both economically developed and economically developing countries are affected. According to the WHO (2019) report, the incidence of adverse events because of unsafe care is one of the 10 leading causes of mortality and disability globally (*WHO., 2021*). In economically low-income and middle-income countries, about 134 million adverse events happen in hospitals because of unsafe care, which leads to 2.6 million deaths each year. Up to 4 in 10 patients are harmed in primary and outpatient health care globally, of which about 80% of the harm is avoidable (*Wake et al., 2021*).

Medical errors and adverse events are a critical danger to patients globally. The evidence showed that approximately 98,000 persons die per year because of the medical errors that happen in hospitals. This is more than the death from motor vehicle accidents, workplace injuries, and breast cancer. Moreover, the financial burden of human tragedy and medical error easily increases to the peak ranks of urgent and widespread community issues (*Mohammed et al., 2023*).

1.3. Significant of Study

This study it will assess level knowledge and attitude towards patient safety among nurses working at public hospitals.

Nurses and provide health care for patients must be high level of knowledge and attitude about patient safety to prevent Medical errors among patients.

Besides, the major objectives of patient safety are to prevent the occurrence of preventable adverse associated with health care and to limit the impact of inevitable adverse events. It is essential to offer quality critical health services. There is a clear agreement that quality health services across the globe should be effective, people centered, and safe. For the successful implementation of patient safety approaches, skilled health care professionals, leadership capacity, clear policies, data to drive safety improvements, and effective involvement of patients in their care are required.

Study aimed to assess the assess level knowledge and attitude towards patient safety among nurses at public hospitals in Sana'a -City.

1.4. Objectives the study

1.4.1. General objective

To assess the knowledge and attitude about patient safety among nurses at public hospitals in Sana'a –City.

1.4.2. Specific objectives

1. To identify the demographic characteristics of nurses.
2. To assess the level of knowledge towards patient safety among nurses working at public hospitals.
3. To assess the level of attitude towards patient safety among nurses working at public hospitals.
4. To find out the relationship between knowledge and attitude towards patient safety among nurses working at public hospitals.
5. To find out the relationship between experience and knowledge towards patient safety among nurses working at public hospitals.
6. To find out the relationship between experience and attitude towards patient safety among nurses working at public hospitals.

1.5. Hypothesis of study

H0.1: There are no significant differences of the level of knowledge and attitude of safety patient among nurses at public hospitals in Sana'a –City, attributable to the age variable.

H0.1: There are no significant differences of the level of knowledge and attitude of safety patient among nurses at public hospitals in Sana'a –City, attributable to the gender variant.

H0.1: There are no significant differences of the level of knowledge and attitude of safety patient among nurses at public hospitals in Sana'a –City, attributable to the educational level variable.

H0.1: There are no significant differences of the level of knowledge and attitude of safety patient among nurses at public hospitals in Sana'a –City, attributable to the social status variable.

H0.1: There are no significant differences of the level of knowledge and attitude of safety patient among nurses at public hospitals in Sana'a –City, attributable to the variable of work experience.

H0.1: There are no significant differences of the level of knowledge and attitude of safety patient among nurses at public hospitals in Sana'a –City, attributable to the variable of receiving training.

H0.1: There are no significant differences of the level of knowledge and attitude of safety patient among nurses at public hospitals in Sana'a –City, attributable to the variable of the last period of receiving training.

H0.1: No statistically significant correlation at the level of significant between the mean score level the knowledge of safety patient, and average score level the attitude about safety patient.

CHAPTER TWO: LITERATURE REVIEW

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Introduction

There have been significant strides made to advance patient safety and quality improvement in the past two decades. Hospitals, and other organizations, reacted to the clarion call from the Institute of Medicine's seminal work, *To Err is Human*. Since this publication, hospitals and healthcare systems have made tremendous investments in people processes and technology all with an aim to improve the quality and safety of care delivery. We have seen improvement: however, there are issues that still persist and have not improved at the same rate as other measures (*Shah and Godambe, 2020*).

Many organizations are struggling with their progress toward zero harm: they have seen a plateau in their improvement and are looking for novel approaches and strategies. Early in the journey, there was an educational component which was missing in this work. As such, initial efforts were appropriately targeted toward increasing capability (the ability, from a skills perspective, of healthcare workers to embark upon quality improvement initiatives) (*Shah and Godambe, 2020*).

Much of the efforts immediately after *To Err is Human* focused on extrapolating the theoretical underpinnings from systems science, reliability, and quality improvement from other industries to educate those of us in healthcare. This was initially quite successful, as there was a whole new lexicon introduced into healthcare. Previously fertile ground was now inundated with theoretical quality improvement applications. As expected, improvement followed as the proverbial low-hanging fruit was harvested. Some of the success in the early 2000s, was a result of the Hawthorne effect (which states that improvement will occur when those performing the work know they are being observed): however, not surprisingly, in many instances, these results were not sustained (*Shah and Godambe, 2020*).

Despite tremendous progress in improving their safety performance, modern healthcare systems still have a long way to go compared to other high-risk, low-error industries such as banking or air transportation. To that end, it has been proposed that adoption of the aviation industry's high-reliability models (HRMs) by healthcare systems may help reduce the occurrence of medical errors. These HRMs are based on in-depth analyses of failure modes and are characterized by their inherent focus on team approaches and the commitment to identifying often complex solutions to existing problems (*Portner et al., 2014*). Within the highly complex environment of modern healthcare, the process of improving patient safety (PS) is certainly a long and arduous journey. This chapter is intended to serve as a framework to the broader discussion of strategies to improve PS outcomes. The overarching themes of this book series revolve around continually institutionalizing and further refining a culture of safety within modern healthcare systems (*Firstenberg and Stawicki, 2018*).

The emphasis on both individual and team excellence, backed by well-established, system based support structures and mechanisms, provides the most optimal substrate for further enhancements in PS (*Stawicki, 2015*). The organizational quest for improving PS revolves around embracing continuous self-improvement, effective change management, realistic goal setting, and rewarding positive individual and team behaviors. Only when all of the above elements are present in “correct proportions” and harmoniously interact to produce synergies can our healthcare systems enter the state of sustainable culture of safety (*Stawicki et al., 2014*).

Compensation and incentive models at the level of physician practices and individual physicians are also being linked to outcomes that consider patient safety. In addition, as previously mentioned, in the era of transparency and public reporting of outcome data, patients can now seek out hospitals and even specific providers that have the best outcomes

across multiple domains of performance, from complications to hospitalization lengths of stay and patient safety event rates. Hence, an obvious reason for such growing interests in PS is that it makes good business sense. Furthermore, public reporting of key clinical metrics and safety indicators has transformative effect on institutions, providers, and patients (*Smith et al., 2015*).

Finally, adverse events often result in medical-legal discussions regarding ‘deviations from the standard of care’ or even “malpractice” and can result in considerable financial consequences for all involved stakeholders. In brief, fostering patient safety is the right thing to do! (*Smith et al., 2015*).

In addition, as our collective experience in achieving a culture and climate of safety grows, organizations should liberally utilize this growing body of knowledge to create and reinforce a framework for delivering safer care, establishing process improvement plans, and emphasizing “best practices” and evidence-based institutional guidelines. The primary goal of the chapters in this volume of Vignettes in Patient Safety is to provide a solid conceptual foundation for accomplishing a truly formidable task of providing the highest quality care for our patients while ensuring that treatments take place efficiently and safely. As we concentrate our efforts on some of the pressing challenges and barriers to achieving a culture of safety, we should carefully and humbly follow in the realization that patient safety is a continuous learning process and that in order to “develop and deploy a patient safety program (*Healy, 2016*).

Focus on challenges

There are several important reasons why challenges remain in the general area of patient safety. Starting with deeply ingrained institutional cultural patterns that are exceedingly difficult to change, the immense number of potential ways and contributing factors that may be associated with unintentional harm is beyond any one person’s ability to

effectively comprehend or influence, either directly or indirectly. Lack of awareness, combined with inadequate education and training, continues to create highly unpredictable “blind spots” within the patient safety paradigm. With increasing emphasis on the importance of the patient as an instrumental factor in the overall healthcare safety equation, potential exists for both beneficial and harmful effects of the added complexity of the resultant “safety matrix.” For example, a patient may be able to help identify the correct anatomic site before he or she undergoes an invasive procedure, yet the same patient may communicate incorrect medication dosage for their regularly prescribed antihypertensive (*Kampstra et al., 2018*).

Among potential safety blind spots” mentioned above, team communication and the patient “handoff” process are associated with the greatest risk of healthcare associated errors. The “handoff” or handover process (HOP) refers to the formal procedure of transferring the clinical care of a patient from a departing provider to an incoming provider and involves targeted transfer of critical information, oversight responsibility, and decision-making authority. Also called the “transition of care” process, the HOP may involve various time schedules (e.g., shift based, daily, weekly) and provider levels, further increasing the potential for miscommunication and potential error(s). The HOP is also the standard operating procedure in both inpatient and outpatient medical settings, as well as during transitions between those two realms. The HOP is highly variable and often dependent upon the provider’s level of training, the scope of responsibility, area of specialty, and time constraints associated with daily workload. Yet, the HOP is often overlooked as a source of miscommunication that potentiates adverse outcomes (*Froimson et al., 2013*).

Of note, in both 2003 and 2011, the Accreditation Council for Graduate Medical Education (ACGME) mandated a decrease in the number of continuous duty hours for house officers. Training programs have acclimated to shorter shift hours from the more classic long

call demands. Therefore, there are many more HOPs to cover the increased number of shifts. Although the struggle to balance resident work hours and the continuity of care is likely to persist, some have suggested that providing “protected handoff environment,” free of distractions and based on predetermined, standardized communication guidelines and EMR-based solutions, may help reduce HOP-related errors. Given this new reality, the healthcare industry must learn from areas where HRMs are the norm, not the exception (*Mebel et al., 2012*).

Examined the HOP in the intensive care unit (ICU), where errors or omissions of important history can greatly impact critically ill patients. Given the high acuity of care being provided in the ICU, the overall situational complexity makes the HOP extremely important and closely enmeshed with a broad range of PS considerations (*Kampstra et al., 2018*).

Another challenging area that affects patient care and safety is the evolution of the electronic medical record (EMR). Advantages of EMR include improved legibility, completeness of record, direct transmission, security and safety of information transfer, and access to large volumes of information. However, the mere presence of EMR does not guarantee enhanced patient outcomes or safety. The built-in safety features like order sets, drug interactions, electronic verification and timing of results/studies, meaningful use, coding, etc., are only helpful and effective if the provider adopts and accesses the system proficiently. Significant education is required to reduce any potential barriers to proper EMR utilization. Among notable “stumbling blocks” in this domain are typing proficiency, motivation and personal initiative, comfort level with workarounds, and on- the-job practice. Other system challenges include physical space, ergonomics, electricity, wireless connectivity, and interinstitutional integration of data. Thus, both personal and systemic

limitations of EMRs have the potential to affect the quality and timeliness of patient care (*Flanders and Saint, 2012*).

Human factors: individuals, teams, and institutional culture

Within the area of patient safety, human factors feature prominently as direct or indirect contributors to adverse events. A broad spectrum of variables to be considered here includes behavioral, cognitive, sensory, and other personal modulators of individual performance. In their interim assessment of progress achieved following the land mark To Err Is Human report, Leape and Berwick point out that although the overall “... efforts are affecting safety at the margin, their overall impact is hard to see in national statistics...”. This was one reason for the implementation of duty hour restrictions for residents in 2011; however, in 2017, the pendulum has swung back toward a more “hybrid on-call model” partly because the restriction on hours which was supposed to help prevent errors related to fatigue perhaps did not account for system errors in hand offs (*Smith et al., 2015*).

Increasing awareness of the importance of team and system errors shifted the “safety focus” from individual providers to clinical teams, patient care units, and institutions in general. A recent study nicely demonstrated that great majority of patient safety events related to unintentional surgical item retention involved team or system errors and that isolated human factors were involved in fewer than 10% of instances. The complexity of the overall system-wide consideration is further highlighted by the fact that two or more safety omissions were involved in >52% of cases of retained surgical items in the same study. A less recognized aspect of patient safety, yet perhaps the most dramatic, and one that can have lasting deleterious effects on all stakeholders when it occurs, is self-harm in the general hospital setting. Inpatient suicide is the second most common sentinel event (12% of all sentinel events) according to the Joint Commission on Accreditation of Healthcare Organizations, yet research on this is sparse (*Froimson et al., 2013*).

Summation and future directions

In the ever-changing healthcare environment, one fundamental principle must remain constant universal and steadfast commitment to the continued improvements in PS, with corresponding assurances to those who literally entrust their lives to healthcare institutions and systems around the world. Steps to improve PS, as outlined in this chapter and throughout the Vignettes, include (a) recognizing current patient safety issues (and patterns); (b) dynamically modifying systems, education, and training related to patient safety; (c) educating healthcare professionals on the significance of PS models and the importance of patient safety culture; and (d) developing collaborations with all stakeholders, including patients, to decrease the incidence of errors and never events. Successful PS paradigms must recognize that humans are fallible and that mistakes in medicine will likely continue to be made, even if our current efforts decrease adverse events by 1-2 orders of magnitude. Whenever identified, “slip-ups” or “near misses” should be promptly identified and addressed with appropriate training, successful communication, and safety checks. Additionally, patient safety systems must foster a culture of safety that emboldens communication, trust, and honesty. This paradigm should include a universal understanding that most sentinel events are not a product of a single individual acting in isolation, but rather of multiple cofactors combining simultaneously and unpredictably to result in a patient safety occurrence (*Kampstra et al., 2018*).

There is growing evidence that institutions able to ensure appropriate staffing and balanced workloads can positively affect patient safety, lengths of stay, and organizational finances. A retrospective observational study in a large tertiary medical center found that nurse staffing below target levels was associated with increased mortality. Another prospective, randomized, controlled study showed that interns were less likely to make serious medical errors when they worked shorter shifts. There is also data to suggest that

patient mortality and resident well-being both improved after the American College of Graduate *(Froimson et al., 2013)*.

Medical Education (ACGME) reduced resident work hours in 2003. Communication errors between providers can adversely affect PS during routine care and even more so during emergency care and in code situations. Training and new processes have been put into place to minimize communication errors. It is also hoped that EMRs will decrease some of the communication errors resulting from poor handwriting *(Healy, 2016)*.

Diagnostic errors could be due to a wrong, missed, or delayed diagnosis. Since a missed or delayed diagnosis can lead to significant downstream costs, implications on both patient well-being and financial expenditures can be dramatic. Encouraging providers to improve their metacognition (or “thinking about thinking”) and awareness of overconfidence can be helpful in reducing diagnostic errors. Recently, there has also been an increased emphasis on systemic changes to minimize diagnostic errors, such as computer based decision support tools. However, these can be associated with some unintended consequences. These tools can be time-consuming, and they can lead to unnecessary downstream testing. There is also a concern they could lead to provider “deskilling” over time *(Kampstra et al., 2018)*.

Important ways to eliminate human error in medicine are safety checklists and standardized handoffs. A systematic review of safety checklists showed that operating room teamwork and communication greatly benefited from the introduction of these simple tools. Checklists were thought to improve outcomes by opening pre-procedure communication, urging dissemination of valuable case-related materials, promoting teamwork and decision-making, highlighting knowledge gaps, and cultivating camaraderie. The Situation, Background, Assessment, Recommendation (SBAR) handoff tool was created to enhance communication. Through systemization of communication, healthcare teams have a shared

expectation of what information is being exchanged and how it is organized. Implementation of the communication tool in the clinical setting has been shown to enhance the acceptance of patient safety climate, staff members' perception of communication between one another, as well as the number of incident reports associated with communication errors (*Healy, 2016*).

The Impact of Fatigue on Medical Error and Clinician Wellness

1. Initiating duty hour restriction to counter fatigue

In an effort to address issues stemming from potentially unsafe working conditions at US residency programs, the ACGME and the Institute of Medicine have advocated for and implemented progressive work hour restrictions to improve resident training. As US teaching hospitals handle increasing admissions, care for older and/or sicker patients, and discharge patients more rapidly than in the past, residents' workloads have intensified despite work hour restrictions. Attributing physician in training exhaustion only to hours of continuous duty and total duty hours over-simplifies the issue of physician fatigue. Workload, circadian rhythm disruption, tolerance of sleep loss, and work shift intensity also play roles in physician's. The ACGME and the Institute of Medicine advocate for duty hour restrictions in addition to expanded supervision and sleep enhancement in order to enhance patient safety. Of note, 55% of studies included "quality of life" as an outcome parameter, with 45% of them demonstrating some degree of improvement (*Harris et al., 2015*).

Drolet et al. in a national survey of trainees from across all specialties showed that nearly half of all respondents disapprove of 16-hour "call maximums" and only about one in five respondents supported the move to 16-hour in-house call limits. Such restrictions were perceived as deleterious to resident quality of life, education, and supervisory engagement (*Froimson et al., 2013*).

2. Impact of fatigue on physician's well-being

Resident physicians' traditional extended duty shifts for 24—30 consecutive hours pose significant hazards not only to patients but also to the physicians in training themselves. Residents report more somatic symptoms with a 24-hour shift schedule than with shorter duration shifts. After transitioning from medical school to internship, average nightly sleep decreased by almost an hour, with shorter sleep during internship correlating with escalated risk of depression. Internship initiates a demanding transition from student to physician (*Osborne and Parshuram, 2014*).

marked by extended labor hours and sleep loss. Interns have significant risk of depression, which correlates with increased likelihood of self-documented and supervisor noted medical errors. The risk of an internal medicine resident reporting a major medical error increases from 15 to 28% as fatigue, depression, or both increase. Research indicates that resident duty hour restrictions in various medical and surgical residencies resulted in enhanced resident wellbeing, fatigue, and burnout after the implementation of the 80-hour rule, closely corresponding to the 2003 ACGME mandate. Conversely, teaching faculty reported increased workloads and job dissatisfaction after implementation of work hour restrictions (*Baldwin et al., 2011*).

3. Relationship between fatigue and physician burnout

Numerous reports document that burnout among physicians in training occurs commonly and results from work-related stress characterized by emotional prostration, depersonalization manifest as cynicism and detachment toward patients, and diminution of personal esteem. Burnout corrodes professionalism, contributes to errors in medical practice, features in substance abuse and relationship difficulties, and can result in physician attrition, depression, and suicidal ideation. Medical students and physician trainees report depression more frequently than similarly matched and aged segments of the US population. To ameliorate burnout and emotional exhaustion, graduate medical education programs have

implemented wellness programs and work hour limitations in recent years. Despite work hour caps intended to promote adequate rest for medical trainees, both medical students and physicians in training continue to commonly report fatigue, which suggests that the solution to physician fatigue and burnout requires a multifactorial approach that does not solely focus on duty hour caps (*Harris et al., 2015*).

10. Impact of duty hour restrictions on resident education and skill development

Limiting work resident's work hours by using cross-coverage or shift work has impacted on residents' training experiences and job satisfaction, resulted in loss of continuity of patient care, and potentially resulted in hospital adverse events and complications. Inherent to more restrictive resident work hours, frequent shift changes can reduce the trainee's ability to effectively engage in continuity of care education/learning, any associated clinical observations, and the recognition of deviations from an expected recovery course and/or post procedural morbidity. A 16-hour limit on continuous duty attributed the beneficial outcomes to increased involvement and coverage of first-year residents' work by more senior residents and faculty. Traditionally, medical training has relied on long work hours to help facilitate the proper acquisition of procedural skills and to foster the long-held concept of patient ownership. Among the most debated topics in relation to the restriction of duty hours and surgical training were, unexpectedly, continuity of care and trainee operative experience (*Kampstra et al., 2018*).

Many European surgical training programs have limited resident surgical work hours to less than 60 per week while still exposing their residents to acceptable amounts of operating room experiences to ensure adequate training. Implementation of duty hour restrictions has resulted in an increase in overall operative case volume in multiple high-quality studies, while in comparison, other reports on surgical specialties have documented no change or decrease in surgical caseload volume. Despite evidence to the contrary,

surgical faculty reports negative effects with respect to resident training, quality of patient care, and continuity of patient care. Finally, although not a direct clinical outcome metric, duty hour restrictions have not negatively impacted board certification scores (*Harris et al., 2015*).

4. Impact of duty hour restrictions on medical error and patient safety

Curtailed shift duration correlates best with improved patient care of the strategies for managing physician fatigue, although the evidence does not demonstrate universal beneficial effect. Enactment of resident work hour constraints has abated provider-induced aftereffects and morbidity-signaling-enhanced patient safety. A recently published study conducted in the critical care setting found that elimination of extended-duration work shifts, defined as >24 hours, actually reduced the rates of significant medical errors and polysomnographically documented attentional failures. Studies that failed to demonstrate patient care benefits secondary to physician duty hour restrictions, mostly in high-acuity critical care patient neurosurgical and cardiac surgery populations, attribute these outcomes secondary to the increased transfers of care of patient care responsibilities (*Smith et al., 2015*).

The increased frequency of patient handovers can fragment care and result in the loss of crucial patient information. Intensive care unit staff reported perceptions that physicians in training know fewer clinical and social details about their patients and make lower quality decisions when working in a shorter schedule. In addition, surgical educators in the future should consider focusing more attention on new technologies and didactic tools (e.g., simulation and web-based learning) to optimize the learning experience in surgery training programs (*Froimson et al., 2013*).

5. Impact of night float to achieve duty hour restrictions

Night float involves a clinical staffing system in which dedicated physicians work throughout the night and not during the day covering their fellow physicians' patients. Night

float implementation has necessitated more frequent handoffs of clinical duties in teaching hospitals in order to comply with applicable rules governing resident work hours; for example, the “night float” trainee may admit patients during the evening shift and transfer them to another clinical team in the morning. Typically, these night float duty periods last for 12—16 hours in North America. Data supporting efficacy of night shift for ameliorating resident fatigue and improving patient safety demonstrates mixed results. While some evidence substantiates night float shifts improvement in resident’s well-being in terms of acclimating to a consistent nocturnal schedule, other data suggest that night float impairs resident’s well-being through isolation from other clinical care teams and hospital consultants available during the daytime shifts (*Healy, 2016*).

5. Strategic protected sleep time during prolonged shifts

Protected sleep time involves residents transferring their clinical duties to other clinical personnel, such as patient admissions, carrying out procedures, and managing patient care issues, for a defined time interval just prior or during their night work shift in order to obtain rejuvenating, uninterrupted sleep. Prior work in no physician populations has demonstrated that taking naps improves tasks involving memory and learning. For residents, regardless of their nocturnal work schedule, weariness and torpor most likely manifest at 4 am, consistent with the notion that circadian rhythms of nocturnal laborers and time of day exert more impact on fatigue than duration of shift. Strategic protected sleep time during prolonged nocturnal shifts and educational seminars about enhancing sleep hygiene practices have demonstrated inconsistent impact on physician recuperation. However, data substantiate the benefits of strategic napping prior to nocturnal shifts and at midpoints during nocturnal shifts in terms of attentiveness and cognitive performance (*Kampstra et al., 2018*).

Previous study

1- Study (Wake et al., 2021)

Study aim to assess Knowledge, attitude, practice and associated factors towards patient safety among nurses working at Asella Referral and Teaching Hospital, Ethiopia. Institution based cross-sectional study was conducted on 172 nurses and using a pretested questionnaire. The data were entered into Epi-Data version 4.2.0.0 and analyzed using the SPSS version 23.0 software. Results: A total of 172 nurses were enrolled in to the study, resulting a response rate of 99.4%. The mean age of the nurses was 32.53 years. More than half 94(54.7%) of them were female. The majority 133(77.3%) of them were qualified for degrees and above. The majority 155 (90.1%) of them had working experience of 13years. The nurse's level of good knowledge, positive attitude, and good practice towards patient safety was 58.7% (n = 101, [95% CI; 51.7, 66.7]), 52.9% (n = 91, [95% CI; 43.6, 61.4]), and 50% (n = 86, [95% CI; 43.6, 57%]) respectively. The multivariable logistic regression analysis showed; working in the operation theatre unit [AOR = 5.01, 95% CI; 1.36, 18.46], having information on patient safety during initial education [AOR = 4.99, 95%CI; 1.87, 13.31], and having information on patient safety during continuing education [AOR = 2.85, 95% CI; 1.14, 7.12] were factors significantly associated with knowledge towards patient safety. Being male [AOR = 3.09, 95% CI; 1.38, 6.95], having working experience of >13 years [AOR = 8.37, 95% CI; 1.36, 51.70], having information on patient safety during initial education [AOR = 3.36, 95%CI; 1.11, 10.15], having information on patient safety during continuing education [AOR = 3.33, 95% CI; 1.25, 8.85], and having good Knowledge towards patient safety [AOR = 2.74, 95% CI; 1.21, 6.21] were factors significantly associated with attitude towards patient safety. Having information on patient safety during initial education [AOR = 5.35, 95%CI; 1.77, 16.17] and having a positive attitude towards patient safety [AOR = 3.02, 95% CI; 1.32, 6.91] were factors significantly associated with practice towards patient safety.

2- Study (Yin et al., 2023)

Study aim to explore the current situation and influencing factors on nurses' attitudes towards patient safety in infectious diseases wards. Methods: This cross-sectional study enrolled 446 nurses. Results: The average score of safety attitudes towards patients was 3.59 ± 0.30 . The scores for each dimension, from high to low, were as follows: management perception: 3.77 ± 0.42 points, pressure perception: 3.77 ± 0.42 points, safety atmosphere: 3.57 ± 0.43 points, job satisfaction: 3.57 ± 0.43 points, teamwork: 3.55 ± 0.50 points and working conditions: 3.50 ± 0.45 points. The results of the multiple stepwise regression analysis showed that the influential factors on nurses' attitudes towards patient safety in infectious diseases wards were as follows: night shift working ($\beta = 11.885$, $P = 0.000$), years of nursing experience ($\beta = 2.862$, $P = 0.001$), education level ($\beta = 4.462$, $P = 0.001$) and marital status ($\beta = 3.871$, $P = 1.002$), which together explained 33.5% of the total variance. Conclusion: Nurses' attitudes towards patient safety in infectious diseases wards were moderately high. Night shift work, years of nursing experience, education level and marital status affected nurses' attitudes towards patient safety. Managers should focus on these groups of nurses and improve their working conditions and job satisfaction to further enhance patient safety.

3- (Camacho-Rodríguez et al., 2022)

Study Purpose: aims to produce evidence about the status of patient safety culture in Latin American hospitals from studies using the Hospital Survey on Patient Safety Culture (HSOPSC). Methods: This systematic review was guided by the JBI guidelines for evidence synthesis. Four databases were systematically searched for studies from 2011 to 2021 originating in Latin America. Studies identified for inclusion were assessed for methodological quality and risk of bias. Descriptive and inferential statistics, including meta-analysis for professional subgroups and meta-regression for subgroup effect, were calculated. Results: In total, 30 studies from five countries—Argentina (1), Brazil (22), Colombia (3), Mexico (3), and Peru (1)—were included in the review, with 10,915 participants, consisting primarily of nursing staff (93%). The HSOPSC dimensions most positive for patient safety culture were “organizational learning: continuous improvement” and “teamwork within units”, while the least positive were “nonpunitive response to error” and “staffing”. Overall, there was a low positive perception (48%) of patient safety culture as a global measure (95%CI,44.53–51.60), and a significant difference was observed for physicians who had a higher positive perception than nurses (59.84; 95% CI, 56.02–63.66). Conclusions: Patient safety culture is a relatively unknown or unmeasured concept in most Latin American countries. Health professional programs need to build patient safety content into curriculums with an emphasis on developing skills in communication, leadership, and teamwork. Despite international accreditation penetration in the region, there were surprisingly few studies from countries with accredited hospitals. Patient safety culture needs to be a priority for hospitals in Latin America through health policies requiring annual assessments to identify weaknesses for quality improvement initiatives.

4- (Salih et al., 2021)

Study Objective: This research assesses Egyptian nurses' attitude to patient safety and the factors that affect their attitude. Methods: A descriptive cross-sectional study. Data were collected using the staff information form and safety attitudes questionnaire. The study population was 350 nurses working in Mansoura University Hospital. Data were analyzed with frequency, percentage, mean, standard deviation, the Chi square test, and ANOVA tests using SPSS. Results: None of the six domains of safety attitude – job satisfaction, teamwork, safety climate, the perception of management, stress recognition, and working conditions – were awarded a positive mean score above 75. 51.4% of the nurses had a neutral attitude toward patient safety. The main associated factors were educational level, experience, and attending training courses related to patient safety, which had a high effect on nurses' attitude ($p\text{-value} < 0.01$); age and marital status had a slight effect ($p\text{-value} < 0.05$), while gender and working unit had no significant relationship ($p\text{-value} > 0.05$). Conclusions: The attitude of nurses towards patient safety at Mansoura University Hospital was neutral, and strongly associated with educational level, years of experience, and attending training courses on patient safety. Therefore, it is strongly recommended to develop strategies towards an increasingly successful patient safety culture.

CHAPTER THREE

METHODOLOGY

CHAPTER THREE: METHODOLOGY

3.1. Study design:

Descriptive cross -sectional study was conducted to assess the knowledge and attitude about patient safety among nurses at public hospitals in Sana’a –City.

3.2. Study setting:

The study was conducted at public hospitals include (Al-Thawra Modern General Hospital Authority, Republican Teaching Hospital Authority and Al-Sabeen Maternity and Child Hospital) in Sana’a city- Yemen.

3.3. Study population

The study population consisted 213 nurses at public hospitals in Sana’a city we selected as random sampling including (71 nurses from Al-Thawra Modern General Hospital Authority, 71 nurses from Republican Teaching Hospital Authority and 71 nurses from Al-Sabeen Maternity and Child Hospital).

3.1. Sample size determination

The researchers selected a representative sample from the original community through stratified random sampling with a number of (220) individuals. After distributing the questionnaire to them, it was retrieved and the number of members of the research sample became (213) individuals.

3.4. Inclusion and Exclusion Criteria

3.6.1. The inclusion criteria were included:

All nurses that worked in public hospitals during data collections period 3/12/2023 to 25/1/2024.

3.6.2. The exclusion criteria were included:

Other nurses worker in administration affairs in hospitals.

3.5. Data collection:

3.7.1. Data collection methods:

Data was collected through the one month (December 2023 to January 2024) where good rapport was maintained in the whole period of data collection, nurses were told to sign the verbal consent form. The questionnaire prepared in English language and translated from English into Arabic, all nurses were received an Arabic version questionnaire. All the collected data has been checked by the researchers daily for completeness and finalization.

3.7.2. Data collection Tool:

A structured questionnaire was administered to assess the knowledge and attitude about patient safety among nurses at public hospitals in Sana'a –City. (Appendix). A close-ended questionnaire with an information letter and consent form attached and handed to nurses by the researchers. A code number was applied. The questionnaire was divided into the following parts:

Part I: Demographic and Personal Data : this part include the demographic and personal data such as: Age in years, qualification, Years of experience, training programs/course, Duration of course, Place of training, position in hospital, shift work. eight question which as multiple choice question.

Part II: Nurses' information about international goals or international standards for patient safety: This part include the Prevent harm resulting from the health care provided, Improving communication between health care teams, improving the safety of medicines,

improving surgical safety, reducing the risk of health care-associated infections, improving safety of care in medication-related areas. question which as multiple choice question.

Part III: Nurse's attitude regarding the patient safety: This part consist Patient safety is a global issue, Most clinical errors are preventable, Most health care staff make errors and ect.. question which as multiple choice question.

3.6. Pilot study:

The pilot study was performed before data collection present to point out weakness of the questionnaire and performed before data collection. A pilot study was on (20) participants from sample size of the nurses on items in a questionnaire to assess the clearing, feasibility of the study and modification of the questionnaire was made.

3.7. Validity and reliability:

The questionnaire was adopted from previously validated and reliable studies was reviewed by (5 experts) to determine if all questions were clearly worded and were not be misinterpreted. As a result, some questions were omitted, some added, and others rephrased. Other questions added were formulated by the researcher with the help of literature supervisor and experts were modified to add or omitted to clearly and corrected misinterpreted and doubtlessness from credence and completeness of study tools.

Reliability by chrobch $\alpha = 0.682$.

3.8. Data analysis :

The data was entered in SPSS program version 24. The data was double-checked. The data was analyzed according to the study objectives. Frequencies and percentage, mean and standard deviation were used. The association between a dependent variable and each

independent variable was measured as Relative weight and indicator. Finally, multiple logistic regressions using enter method was carried out to get the final model.

3.9. Ethical consideration

A letter was issued from the faculty of medical science 21 September to target hospitals. nurses were assured that their responses would not influence their child life. Purpose and benefits of the study were explained to the nurses. The nurses were assured of confidentiality. Verbal consent were obtained from nurses which describe the study and indicate that the subjects could withdraw from the study at any time.

CHAPTER FOUR:

RESULTS

CHAPTER FOUR:RESULTS

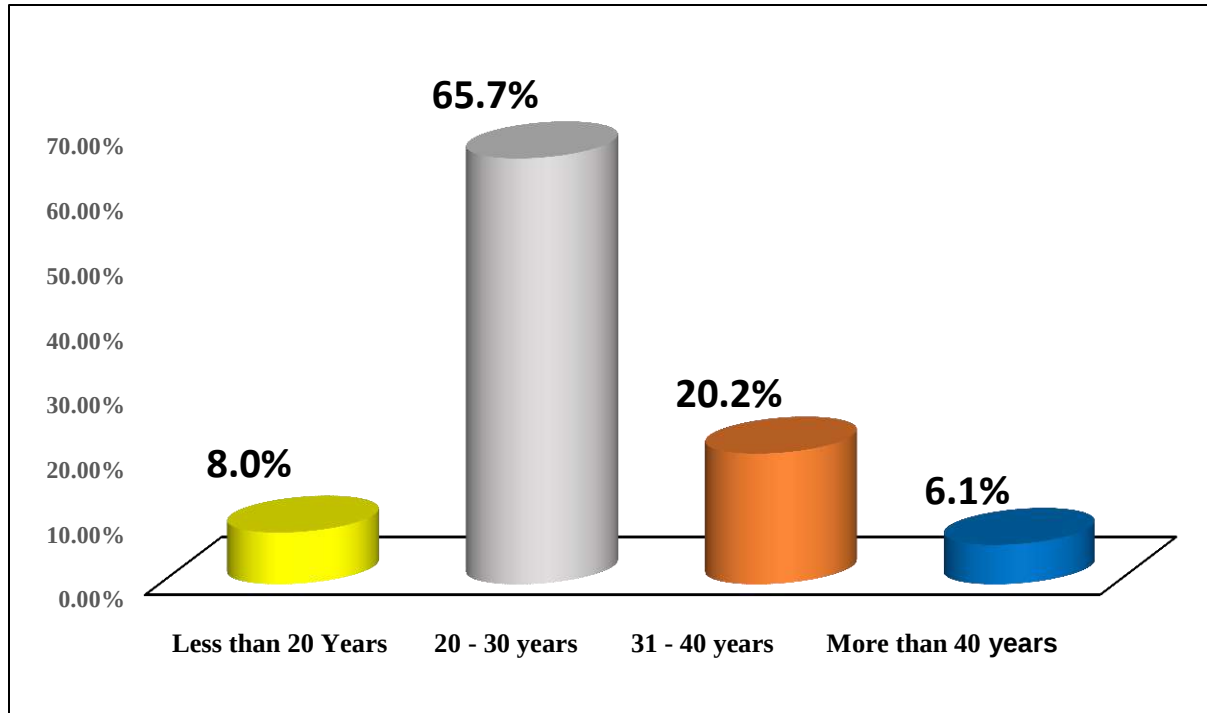


Figure (1): Distribution characteristics of the research sample according to age group

Figure (1): show distribution of participants according to age group, more than two third (65.7%) of participants were age group between 20 to 30 years, follow by (20.2%) of participants were age group between 31 to 40 years, while (8.0%) of participants were age group less than 20 years and (6.1%) of them were more than 40 years.

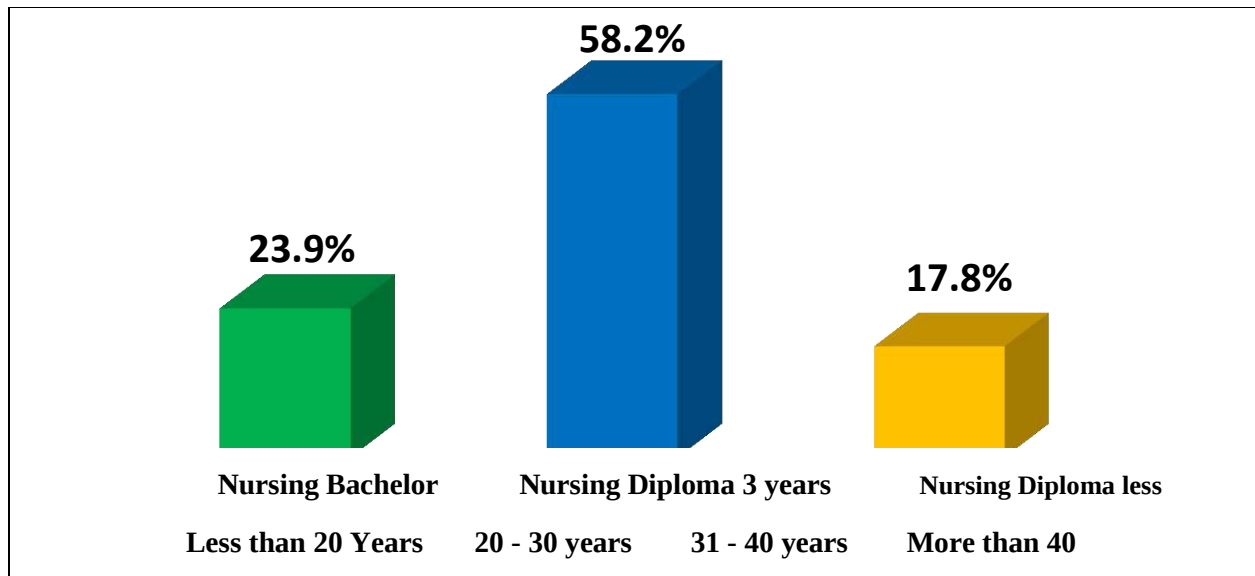


Figure (2): distribution characteristics of the research sample according to academic qualification variable

Figure (2): show distribution of participants according to academic qualification variable, more than half (58.2%) of nurses have nursing diploma 3 years, follow by (23.9%) of nurses have nursing bachelor, while. (17.8%) of them have nursing diploma less.

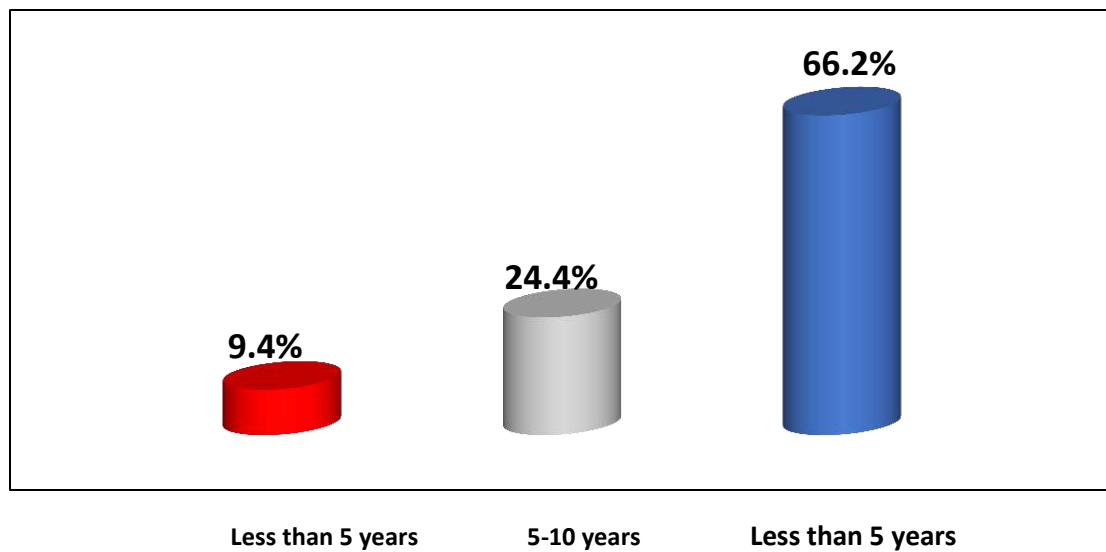


Figure (3): distribution characteristics of the research sample according to experience

Figure (3): show distribution of participants according to experience, more than tow third (66.2%) of nurses have Less than 5 years, follow by (24.4%) of nurses have between 5-10 years, while. (9.4%) of them have Less than 5 years.

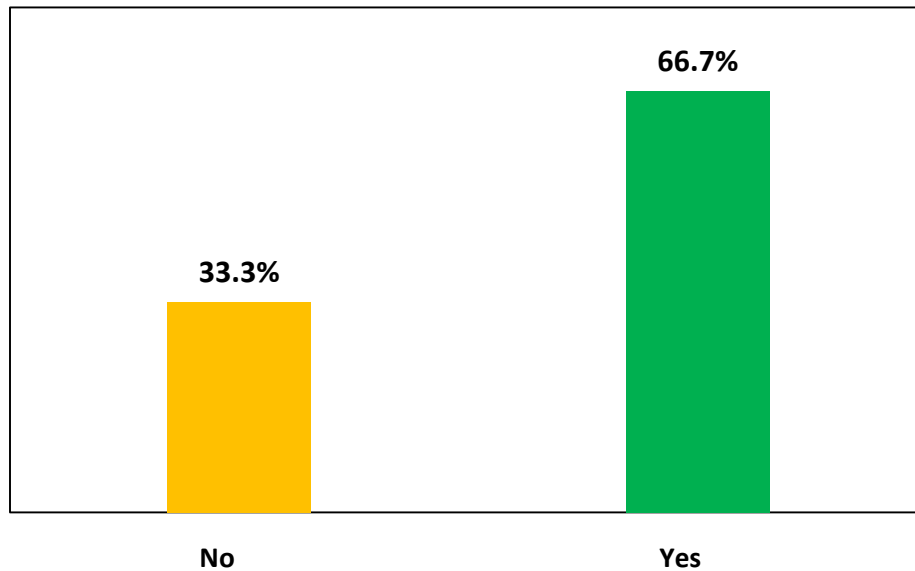


Figure (4): distribution characteristics of the research sample according to attendance at training programs and courses

Figure (4): show distribution of participants according to attendance at training programs, more than tow third (66.7%) of nurses have attendance at training programs, while. (33.3%) of them did not have attendance at training programs.

Table 1: Distribution demographical characteristics of participants (n=213).

Characteristics	Frequency	Percentage
Attendance		
• Yes	142	66.7%
• No	71	33.3%
Total	213	100%
Duration		
• Nothing	71	33.3%
• Less than 3 days	51	23.9%
• 3-6 days	60	28.2%
• More than 6 days	31	14.6%
Total	213	100%
Place		
• Nothing	71	33.3%
• Inside hospital	74	34.7%
• Outside hospital	33	15.5%
• Inside and outside hospital	35	16.4%
Total	213	100%
Job		
• Nursing Crew	166	77.9%
• Nursing Incharge	10	4.7%
• Nursing Observer	21	9.9%
• Nursing educator	3	1.4%
• Others	13	6.1%
Total	213	100%
Working Period		
• Morning	158	74.2%
• Evening	17	8.0%
• Night	9	4.2%
• 16 hrs	26	12.2%
• morning & evening	3	1.4%
Total	213	100%

Table 1 note that, distribution demographical characteristics of participants. Most (66.7%%) of participants had attendance. About half (34.7%) of them inside hospital. More than half (55.8%) of participants from rural. Majority (77.9%) of nurses have Nursing Crew and

(74.2%) of them were morning period.

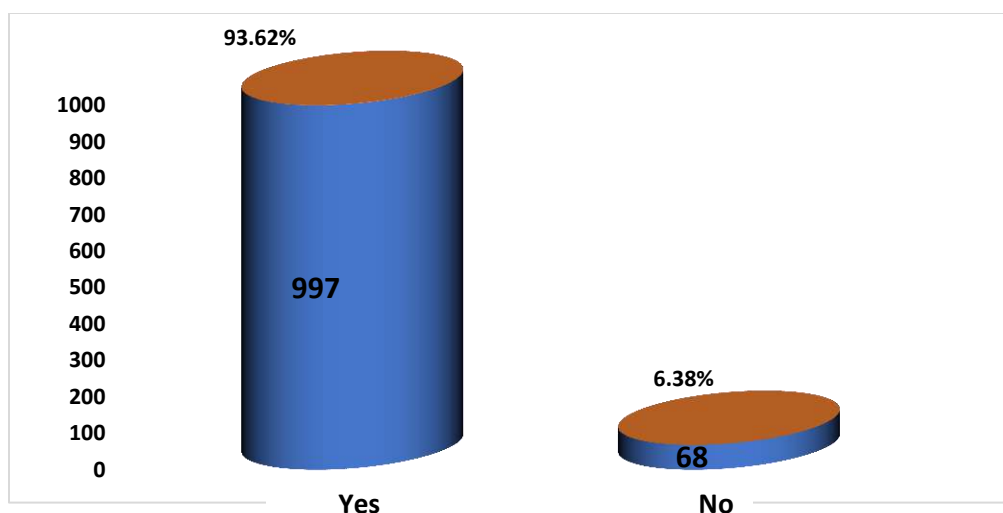
Describe the results of the analysis of the title of preventing harm resulting from the health care provided

Table (2) shows the results of the descriptive statistics for the questions of the title of preventing harm resulting from health care provided from the point of view of the sample members. The results were as follows:

Table 2: Results of the analysis of the questions of the title of preventing harm resulting from the health care provided

Sentence	Frequencies & Percentages		Mean	Std Deviation	Relative weight	Indicator
	Yes	No				
1	210	3	1.01	.118	0.51	Yes
2	208	5	1.02	.152	0.51	Yes
3	200	13	1.06	.240	0.53	Yes
4	201	12	1.06	.231	0.53	Yes
5	178	35	1.16	.371	0.58	Yes
Total	997	68	1.06	0.22	0.53	Yes
Percentage	93.62%	6.38%				100%

It is clear from the table above that the highest arithmetic mean in the first title is for the fifth question (1.16) and received a measure of (yes), and the lowest mean is for the first question (1.01) with a measure of (yes). It is also clear that all answers to the questions were directed towards agreeing with the questions of preventing harm resulting from health harm presented, with a high percentage of 93.62%. This is shown in the following figure:



The second title: improving communication between health care teams

Describe the results of the analysis of the theme of improving communication between health care teams

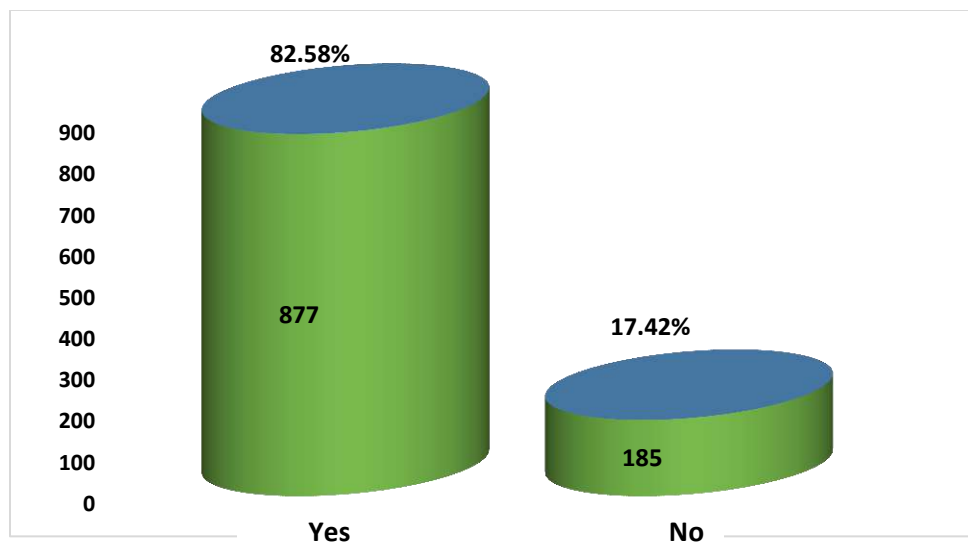
Table (3) shows the results of descriptive statistics for the questions of the title of improving communication between health care teams from the point of view of the samples. The results were as follows:

Table 3: Results of the analysis of the questions of the title of improving communication between health care teams

Sentence	Frequencies & Percentages		Mean	Std Deviation	Relative weight	Indicator
	yes	No				
1	182	31	1.15	.353	0.57	yes
2	159	53	1.30	.854	0.65	yes
3	187	25	1.13	.347	0.56	yes
4	177	35	1.17	.392	0.59	yes
5	172	41	1.19	.395	0.6	yes
Total	877	185	1.19	0.47	0.59	yes
Percentage	82.58%	17.42%				100%

The table above shows that the highest arithmetic mean in the second title is for the second question (1.30) and received a measure of (yes), and the lowest mean is for the third question (1.13) with a measure of (yes). It is also clear that all answers to the items were directed toward

agreeing with the items on improving communication between health care teams, with a high percentage of 82.58%. This is shown in the following figure:



The third title: enabling drug safety

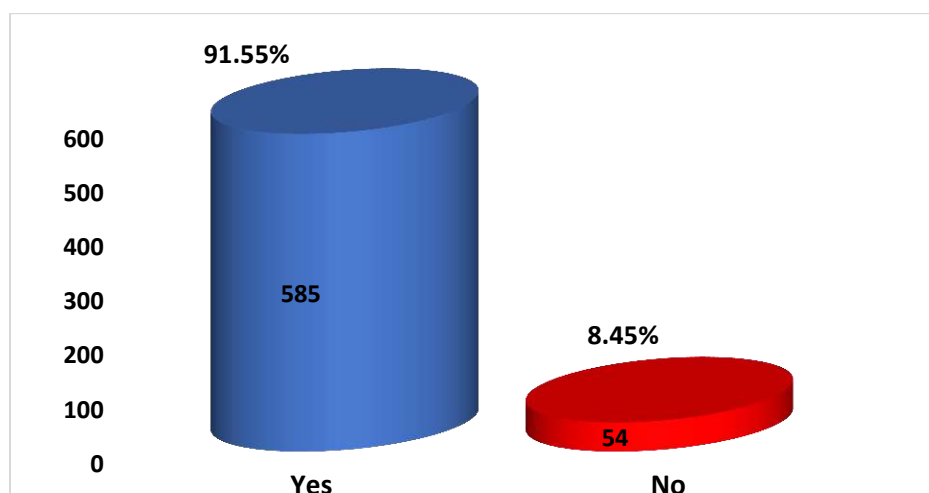
Describe the results of the analysis of the drug safety facilitation title

Table (4) shows the results of descriptive statistics for the questions of the communication title between health care teams from the point of view of samples. The results were found as follows:

Table 4: Results of the analysis of the questions of the title of improving drug safety

Sentence	Frequencies & Percentages		Mean	Std Deviation	Relative weight	Indicator
	Yes	No				
1	209	4	1.02	.136	0.51	yes
2	198	15	1.07	.256	0.54	yes
3	178	35	1.16	.371	0.58	yes
Total	585	54	1.08	0.25	0.54	yes
Percentage	91.55%	8.45%				100%

It is clear from the table above that the highest arithmetic mean in the third title is for the third question (1.16) and received a measure of (yes), and the lowest mean is for the first question (1.02) with a measure of (yes). It is also clear that all answers to the items were directed toward agreeing with the items on improving drug safety, with a high percentage of 91.55%. This is shown in the following figure:



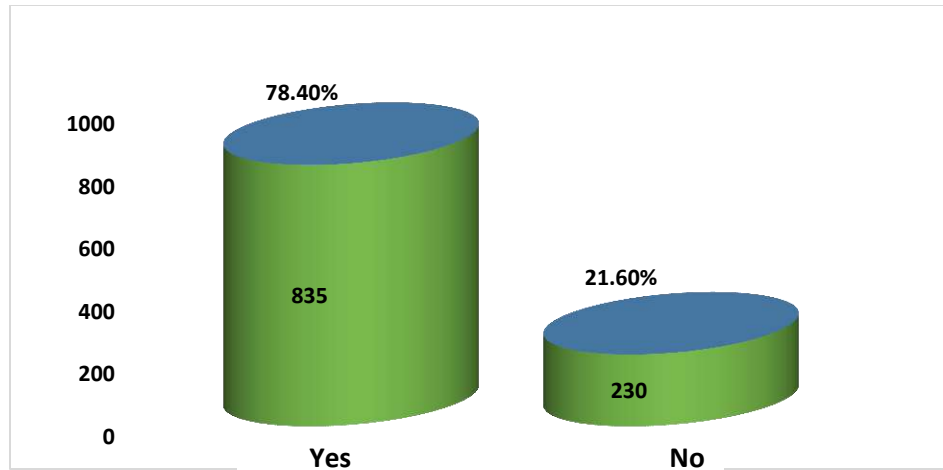
Descriptive analysis of the title of improving surgical safety

Table (5) shows the results of descriptive statistics for the items on the title of improving surgical safety for patients from the point of view of the sample members. The results were as follows:

Table 5: Results of the analysis of the questions of the title of improving surgical safety

Sentence	Frequencies & Percentages		Mean	Std Deviation	Relative weight	Indicator
	Yes	No				
1	188	25	1.12	.323	0.56	yes
2	155	58	1.27	.446	0.64	yes
3	143	70	1.33	.471	0.66	yes
4	182	31	1.15	.353	0.57	yes
5	167	46	1.22	.412	0.61	yes
Total	835	230	1.22	0.40	0.61	yes
Percentage	78.40%	21.60%				100%

It is clear from the table above that the highest arithmetic mean in the fourth title is for the third question (1.33) and received a measure of (yes), and the lowest mean is for the first question (1.12) with a measure of (yes). It is also clear that all answers to the items were directed toward agreeing with the questions on improving surgical safety, with an average percentage of 78.40%. This is shown in the following figure:



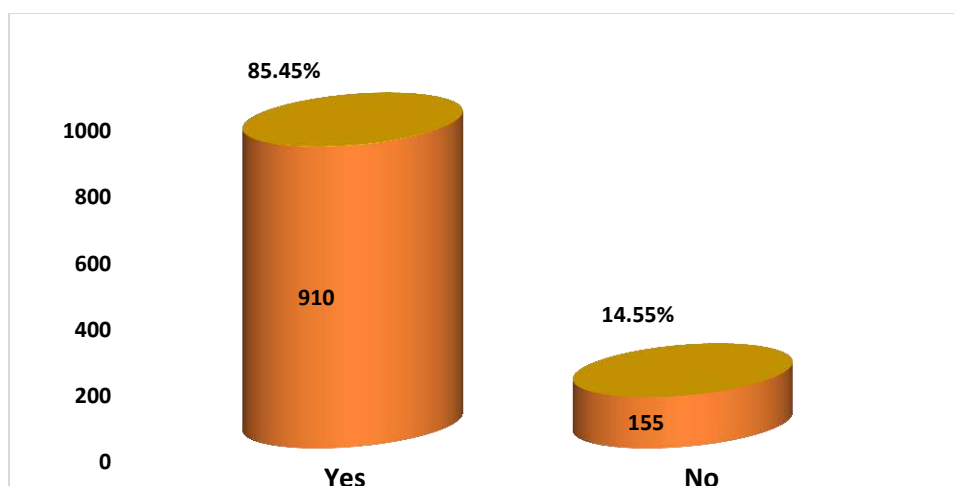
Descriptive analysis Reducing the risk of healthcare-associated infections

Table (6) shows the results of descriptive statistics for the questions of the title of reducing the risk of health care-related infections from the point of view of the sample members. The results were as follows:

Table 6: Results of the analysis of the items on the title of reducing the risk of health care-associated infections

Sentence	Frequencies & Percentages		Mean	Std Deviation	Relative weight	Indicator
	Yes	No				
1	198	15	1.07	.256	0.54	yes
2	182	31	1.15	.353	0.57	yes
3	196	17	1.08	.272	0.54	yes
4	195	18	1.08	.279	0.54	yes
5	139	74	1.35	.477	0.67	yes
Total	910	155	1.15	0.33	0.57	yes
Percentage	85.45%	14.55%				100%

The table above shows that the highest arithmetic mean in the fifth title is for the fifth question (1.35) and received a measure of (yes), and the lowest mean is for the first question (1.07) with a measure of (yes). It is also clear that all answers to the items were directed toward agreeing with the items on reducing the risk of infection associated with health care, with a high percentage of 85.45%. This is shown in the following figure:



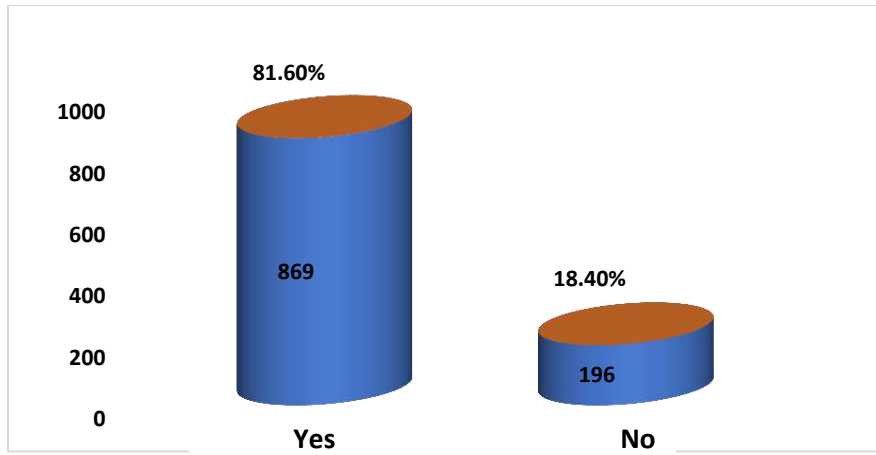
Descriptive analysis of the theme of improving safety of care in medicine-related areas

Table (7) shows the results of descriptive statistics for the items of the title of improving the safety of care in areas related to medicines from the point of view of the sample members. The results were as follows:

Table 7: Results of the analysis of the items of the title of improving the safety of care in areas related to medicines

Sentence	Frequencies & Percentages		Mean	Std Deviation	Relative weight	Indicator
	Yes	No				
1	184	29	1.14	.344	0.57	yes
2	191	22	1.10	.305	0.55	yes
3	180	33	1.15	.363	0.58	yes
4	144	69	1.32	.469	0.66	yes
5	170	43	1.20	.402	0.6	yes
Total	869	196	1.18	0.38	0.59	yes
Percentage	81.60%	18.40%				100%

It is clear from the table above that the highest arithmetic mean in the sixth title is for the fourth question (1.32) and received a measure of (yes), and the lowest mean is for the second question (1.10) with a measure of (yes). It is also clear that all answers to the items were directed toward agreeing with the items on improving the safety of care in areas related to medicines, with a high percentage of 81.60%. This is shown in the following figure:



Descriptive analysis of nurses' attitudes

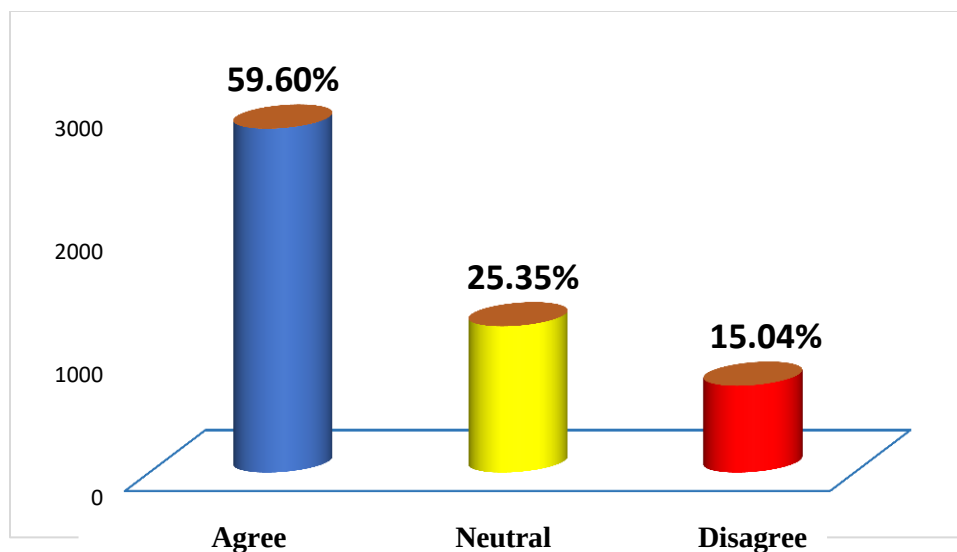
Table (8) shows the results of descriptive statistics for the questions of the title of nurses' attitudes about international standards for patient safety from their point of view. The results were as follows:

Table 8: Results of the analysis of the patient attitudes title items on international standards for patient safety

Sentence	Frequencies & Percentages			Mean	Std Deviation	Relative weight	Indicator
	Agree	Neutral	Disagree				
1	205	8	0	2.96	.191	0.99	Agree
2	156	54	3	2.72	.481	0.91	Agree
3	91	89	33	2.27	.714	0.76	Neutral
4	80	103	30	2.23	.681	0.74	Neutral
5	54	83	76	1.90	.776	0.63	Neutral
6	173	32	8	2.77	.501	0.92	Agree
7	168	32	13	2.73	.567	0.91	Agree
8	163	35	15	2.69	.595	0.90	Agree
9	159	41	13	2.69	.582	0.90	Agree
10	108	68	37	2.33	.757	0.78	Neutral
11	104	77	32	2.34	.726	0.78	Neutral
12	150	42	21	2.61	.662	0.87	Agree
13	170	30	13	2.74	.563	0.91	Agree
14	108	58	47	2.29	.805	0.76	Neutral
15	97	33	83	2.07	.919	0.69	Neutral
16	71	37	105	1.84	.897	0.61	Neutral
17	167	35	11	2.73	.548	0.91	Agree
18	140	56	17	2.58	.637	0.86	Agree
19	132	54	27	2.49	.711	0.83	Agree
20	119	61	33	2.40	.744	0.80	Agree
21	77	81	55	2.10	.782	0.70	Neutral
22	101	79	33	2.32	.728	0.77	Neutral
Total	2793	1188	705	2.45	0.66	0.82	Agree
Percentage	59.60%	25.35%	15.04%				100%

The table above shows the results related to the seventh title, which is (attitudes of nurses), where the scale was as follows: (Agree - Neutral - Disagree). It is clear from the table that the highest arithmetic mean in this title is for the first question (2.96) with a degree of (Agree) Also, the lowest average is for the sixteenth question (1.84) with a score of (neutral). It is also clear

that twelve items received an “agree” scale, while the remaining ten items received a “neutral” scale. Thus, the general average for all items was (2.45), which expresses the “agree” scale, and therefore the percentage of agreement was high in the answers to the questions compared to the rest of the items. The percentage of indicators is 59.60%, while the percentage of disagreement is 15% and neutral is 25.35%. This is shown in the following figure:



The summary of the arithmetic mean indicators, standard deviations, and relative weights for all titles is shown in the table shown below. Among the first six titles, which have the same indicator and represented by (yes, no), it is clear that the highest arithmetic mean is for the title (improving surgical safety) with a value of 1.22 and a relative weight of 0.61. While the lowest arithmetic mean is for the first and second title (preventing harm resulting from the health care provided, improving communication between health care teams) with a value of 1.06 and a relative weight of 0.53.

Regarding the seventh title (nurses’ attitudes), which is represented by indicators (agree, neutral, disagree), the title received an agree rating with an arithmetic average of (2.45), which shows the degree of agreement in the samples’ answers to the questions of all titles, including the nurses’ attitudes title.

Anova Test for Variables

Table 9: Anova test has been observed to check the significant scale between the means of the whole questions about nurses' knowledge and attitudes about patient safety standards according to the variables, that is shown in the table below:

Variable	Option	Mean	Std	التباين	Sum of Squares	df	Mean Square	F	Sig	الدلالة اللفظية
Age	Less than 20 Years	1.75	.10	Between Groups	.034	3	.011	0.922	0.432	Not Sig
	20 – 30 years	1.71	.11	Within Groups	2.588	209	.012			
	31-40 years	1.72	.12	Total	2.622	212				
	More than 40 years	1.73	.069							
	Total	1.72	.11							
Qualification	Nursing Diploma less than 3 years	1.73	.10353	Between Groups	.033	2	.016	1.334	0.266	Not Sig
	Nursing Diploma 3 years	1.71	.11263	Within Groups	2.589	210	.012			
	Nursing Bachelor	1.73	.11243	Total	2.622	212				
	Total	1.72	0.112							
Experience	Less than 5 years	1.7251	.11410	Between Groups	.008	2	.004	0.327	0.722	Not Sig
	5-10 years	1.7108	.11455	Within Groups	2.614	210	.012			
	More than 10 years	1.7170	.08007	Total	2.622	212				
	Total	1.72	0.11							
Training Place	Nothing	1.7377	.10757	Between Groups	.080	3	.027	2.18	0.091	Not Sig
	Inside hospital	1.6954	.10801	Within Groups	2.542	209	.012			
	Outside hospital	1.7224	.12978	Total	2.622	212				
	Inside and outside hospital	1.7389	.10023							
	Total	1.72	0.11							
Job	Nursing Crew	1.7249	.11342	Between Groups	.035	4	.009	0.713	0.584	Not Sig
	Nursing Incharge	1.7100	.09393	Within Groups	2.586	208	.012			
	Nursing Observer	1.6876	.11180	Total	2.622	212				

	Nursing educator	1.7733	.04619							
	Others	1.7185	.10407							
	Total	1.72	0.11							
Working Period	Morning	1.7046	.10205	Between Groups	.188	4	.047	4.002	0.004	Sig
	Evening	1.7553	.12176	Within Groups	2.434	208	.012			
	Night	1.7489	.07424	Total	2.622	212				
	16 hrs	1.7885	.14324							
	morning & evening	1.7133	.04619							
	Total	1.72	0.11							

From the table above, it is clear that the statistical significance between the variables of (Age, Qualification, Experience, Training Place and Job) and nurses' knowledge and attitudes about patient safety standards is > 0.05 which indicates that there is no statistically significant difference. However, there is statistically significant differences between nurses' knowledge and attitudes about patient safety standards according to the variable of (Working Period), due to the value of Significant is $(0.004) < 0.05$.

Title	Mean	Std Deviation	Relative weight	Indicator
Preventing harm resulting from the health care provided	1.06	0.22	0.53	Yes
Improving communication between healthcare teams	1.06	0.22	0.53	Yes
Improving drug safety	1.08	0.25	0.54	Yes
Improving surgical safety	1.22	0.40	0.61	Yes
Reducing the risk of healthcare-associated infections	1.15	0.33	0.57	Yes
Improving safety of care in medication-related phases	1.18	0.38	0.59	Yes
Nurses' trends	2.45	0.66	0.82	Agree

Testing the reliability of the questionnaire

The Crombach Alpha was tested for the reliability of the questionnaire using the statistical analysis software SPSS, and the results were as follows:

Title	No. of Q	Crombach Alpha Test
Preventing harm resulting from the health care provided	5	0.521
Improving communication between healthcare teams	5	0.640
Improving drug safety	3	0.373
Improving surgical safety	5	0.711
Reducing the risk of healthcare-associated infections	5	0.541
Improving safety of care in medication-related phases	5	0.661
Nurses' trends	22	0.576
Sum of Titles	51	0.682

It is clear from the table above that the highest reliability was obtained by the questions of the title (improving surgical safety) with a value of 0.711, which indicates the presence of high stability for these questions, while the rest of the questions of the other titles obtained a stability rate higher than 0.5, which is an acceptable stability rate for the questionnaire items, except for

the questions The title (improving drug safety) obtained the lowest reliability with a value of (0.373), which is an unacceptable rate. The questions must be drafted again.

It turned out that the reliability of the questionnaire as a whole obtained a value of 0.682 and this shows that the reliability of the questionnaire as a whole is somewhat acceptable.

CHAPTER FIVE

DISSCUSSION

CHAPTER FIVE: DISSCUSION

Introduction

Patient safety (PS) is a top priority for all healthcare institutions, whether privately commissioned or government-funded. Healthcare institutions' challenges are enormous, and anyone concerned about patient care should consider the scope of patient harm and the need to embrace safety culture in healthcare (*Zulkifli et al., 2021*).

This study was conducted to assess knowledge and attitude about patient safety among nurses at public hospitals in Sana'a –City.

In this study, majority (65.7%) of the research sample members were between 20 and 30 years old. This finding similar with study Sana'a city (*Alhawri et al., 2021*), majority of the nurses (60.9 %) were at age range of 20 to 30 years, and agree with study (*Çilhoroz and İlğün, 2022*), who reported that the majority of the participants were found to be aged between 19-26 (38.1%). On other hand study (*Zulkifli et al., 2021*), showed that the most (70%) of nurses were between 19 and 20 years old.

More than half (58.2%) of the sample of nurses have a 3-year practical qualification (diploma) in nursing.it is in line with (*Alhawri et al., 2021*), who reported that the majority of nurses (88.7%) had a diploma in nursing. This finding disagree with study (*Salih et al., 2021*), showed that the most (73.1%) of nurses have Bachelor's degree.

majority (66.2%) of the sample members had less than 5 years of experience in government hospitals, it is in line with (*Salih et al., 2021*), showed that the about tow third (64.6%) of nurses have 1-5 years of experience, support with study in Sana'a City (*Alhawri et al., 2021*), showed that the about 45.2% of the nurses had a working experience between 1

to 5 years, while (**Yin et al., 2023**) is not in line with present study showed that the (30.8%) of nurses had 6-10 years in experience.

more than two third (66.7%) of nurses who attended training programs and courses related to patient safety was of the training courses. It is agree with study (**Çilhoroz and İlğün, 2022**) which was most (82.3%) of participation have training on patient safety. Support with (**Wake et al., 2021**), most (77.9%) of the nurses not have training on patient safety. Other study (**Salih et al., 2021**), (61.7%) of nurses not have training courses related to patient safety. In present study most (74.2%) of the study sample members work in the morning shift and (77.9%) of them was nursing staff.

In current study, More than half (59.6%)of nurses agree attitude patient safety. Similar finding with (**Alhawri et al., 2021**), shown that the chosen "Agree" has the higher mean percentage (68.28%). Other study in Zambia 56% (**Malama, 2015**) and Addis Ababa 55.7% (**Hailu, 2017**).

In this study there is statistically significant differences between nurses' knowledge and attitudes about patient safety standards according to the variable of (working period), due to the value of Significant is $(0.004) < 0.05$. disagreement finding with study (**Alharbi et al., 2023**), showed the A significant difference was observed in the mean PSNC score among age groups ($p = 0.002$) and differed significantly between individuals according to their education level ($p = 0.047$). while, no significant difference was working period because $p < 0.0$.

CHAPTER SIX: CONCLUSION & RECOMMENDATIONS

CHAPTER SIX CONCLUSION & RECOMMENDATIONS

6.1. Conclusion

According to the results obtained, the researchers concluded that:

In present study majority (65.7%) of the research sample members were between 20 and 30 years old and more than half (58.2%) of them have a 3-year practical qualification (diploma) in nursing. Most (66.2%) of the sample members had less than 5 years of experience in government hospitals and (66.7%) of them attended training programs and courses related to patient safety and duration ranged from (3-6 days) (28.2%). About one third (34.7%) of nurses courses that took place inside the hospital and most (77.9%) of nurses' work was nursing staff. On other hands most (74.2%) of the study sample members work in the morning shift.

More than half (59.6%) of nurses were agree attitude and (25.3%) of them were neutral while (15.4%) of nurses were disagree.

In this study, that the statistical significance between the variables of (Age, Qualification, Experience, Training Place and Job) and nurses' knowledge and attitudes about patient safety standards is > 0.05 which indicates that there is no statistically significant difference. However, there is statistically significant differences between nurses' knowledge and attitudes about patient safety standards according to the variable of (Working Period), due to the value of Significant is $(0.004) < 0.05$.

6.2. RECOMMENDATIONS

We recommended that:

1. For management in hospitals

- We recommend that the administration create programs to raise nurses' information and knowledge about patient safety.

2. For nurses

- Nurses must learn from each other and broadly develop their knowledge and attitudes about patient safety.

3. For researchers

- Future research is needed to expand on the findings of this study and explore how personal characteristics and work environment influence patient safety for healthcare providers.

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APPENDIX



Title: Assessment of knowledge and attitude about patient safety among nurses at public hospitals in Sana'a –City -Yemen.

Objectives: To assess the knowledge and attitude about patient safety among nurses.

استبيان

اعزائي الزملاء والزميلات تحية طيبة وبعد،،،

يطيب لي أن أضع بين أيديكم استبانة بحث: بعنوان: "تقييم المعارف والمواقف حول سلامة المرضى بين الممرضين في المستشفيات الحكومية في مدينة صنعاء، اليمن" وذلك لاستكمال الحصول على درجه البكالوريوس في التمريض العالي، أرجو منكم التعاون بالاجابة عن كافة العبارات المكتوبة داخل الاستبانة، علما أن المعلومات في هذه الدراسة ستستعمل لاغراض البحث العلمي فقط، وسيتم التعامل مع إجاباتكم بسرية تامة. وتتكون الاستبانة من جزئين الجزء الاول ويحتوي على المعلومات الشخصية والوظيفية، والجزء الثاني والذي يعنى بتحديد تقييم معارف ومواقف الممرضين تجاه سلامة المرضى في مدينة صنعاء، اليمن .

شاكرًا لكم حسن تعاونكم.

إشراف:

د/ فارس مهدي

Part 1: Demographic Data:

1. Age in years:

- a- < 20 years
- b- 20 - < 30 years
- b- 30 - < 40 years
- c- ≥ 40 years

2. Qualification:

- a- Nursing Diploma
- b- General nursing diploma
- c- Bachelor science in nursing

3. Years of experience ears:

- a. < 5
- b. 5 – 10
- c. > 10

4. Attending training programs/course as regard to patient safety :

- a. Yes
- b. No

5. Duration of course:

- a. < 3 days
- b. 3 – 6 days
- c. > 6 days

6. Place of training:

- a. In hospital
- b. Out of hospital

7. What is your position in this hospital?

- a- Staff Nurse
- b- Charge Nurse
- c- Head Nurse
- d- Educator e.
- e- Other, please specify:

8. Which shift do you usually work?

- a-Morning
- b- Evening
- c- Night
- d- 16 hors

Part Two: Nurses' information about international goals or international standards for patient safety

No	The first goal: to prevent harm resulting from the health care provided	Yes	No
1.	Are factory actions taken from errors in health care delivery?		
2.	Do you follow health safety guidelines recognized by medical science?		
3.	Are you selecting education and guidance for patients and their families in addition to safety as potential factors?		
4.	Do you collaborate with other health care team on improving patient safety and why?		
5.	Do you report non-harmful incidents with errors that are likely to occur in the future?		
	Second goal: Improving communication between health care teams.		
6.	Are you sharing critical information effectively and accurately with other healthcare teams?		
7.	Do you provide necessary information to other medical teams on a regular and timely basis?		
8.	Do you encourage effective and open communication between different healthcare teams?		
9.	Are you working to improve the process of transferring patients between departments and hospitals?		
10.	Are you documenting and sharing important information on a regular basis to promote coordination and smooth communication between teams?		
	The third goal: improving the safety of medicines.		
11.	Do you verify the identity of patients before providing medications to them?		
12.	Do you follow recognized safety procedures when preparing and distributing medications?		
13.	Do you provide education and guidance to patients about their prescribed medications?		
No	Fourth goal: improving surgical safety	Yes	No
14.	Do you follow recognized surgical safety procedures before, during and after surgeries?		
15.	Do you share critical information with the surgical team before performing		

	surgeries?		
16.	Do you use surgical checklists to verify required procedures before the start of the procedure, during the procedure, and at the completion stage?		
17.	Do you provide the necessary care for patients after surgeries to reduce the incidence of complications and speed up recovery?		
18.	Do you work with other healthcare teams to achieve integration of care regarding surgical safety?		
	Fifth goal: Reducing the risk of health care-associated infections.		
19.	Are you committed to applying infection prevention measures in daily practice?		
20.	Do you follow national or international infection prevention guidelines?		
21.	Do you encourage the use of appropriate personal protective equipment such as gloves, masks and goggles?		
22.	Do you collaborate with other teams to limit the spread of infection and develop clear procedures for dealing with potential infections?		
23.	Do you evaluate and monitor infection rates and implement continuous improvement measures?		
	Goal Six: Improving safety of care in medication-related areas.		
24.	Do you review medications used at the facility to ensure they are safe and effective?		
25.	Does it reduce the incidence of errors in dispensing and taking medications by patients?		
26.	Do you provide education and guidance to patients about using medications safely and effectively?		
27.	Do you collaborate with pharmacy and other healthcare teams to ensure the safe use of medications?		
28.	Do you document and monitor unwanted drug-related events and improve the process based on learning from them?		

Part three: Nurse's attitude regarding the patient safety

No	Nurse's attitude	D	N	A
1.	Patient safety is a global issue.			
2.	Most clinical errors are preventable.			
3.	Most health care staff make errors.			
4.	Most errors are out of staff control.			
5.	Competent physician doesn't make Error			
6.	If I continue to learn from my mistakes, I can avert incidents.			
7.	Accepting and dealing with my faults will be a significant part of my job.			
8.	It is necessary for me to acquire knowledge on how best to acknowledge and manage with my mistake after my medical training.			
9.	Acknowledging and dealing with my errors will be an important part of my job.			
10.	Informing other team members about mistakes I made would be easy.			
11.	It is easy to find somebody to fault rather than concentrating on the sources of the mistake.			
12.	I am bold in speaking to my colleague who is displaying a lack of concern for a patient's safety.			
13.	I believe that completing documentation forms will help to advance patient safety.			
14.	I am able to speak about my own mistakes.			
15.	Meeting the target of my job is more important than patient safety.			
16.	Patient safety is not an important concern for my profession.			
17.	Working here is like being part of a large family			
18.	This hospital is a good place to work			
19.	Excessive workload impairs my performance			
20.	I am less effective at work when fatigued			
21.	The levels of staffing in this clinical area are sufficient to handle the number of patients.			
22.	This hospital does a good job of training new personnel			



استبيان حول

تقييم معلومات واتجاهات الممرضين حول الأهداف الدولية او المعايير الدولية حول سلامة

المرضى في المستشفيات الحكومية في مدينة صنعاء - اليمن.

اعزائي الزملاء والزميلات تحية طيبة وبعد،،،

يطيب لي أن أضع بين أيديكم استبانة بحث: بعنوان: "تقييم المعارف والمواقف حول سلامة المرضى بين الممرضين في المستشفيات الحكومية في مدينة صنعاء، اليمن" وذلك لاستكمال الحصول على درجه البكالوريوس في التمريض العالي ، أرجو منكم التعاون بالإجابة عن كافة العبارات المكتوبة داخل الاستبانة، علما أن المعلومات في هذه الدراسة ستستعمل لأغراض البحث العلمي فقط، وسيتم التعامل مع إجاباتكم بسرية تامة. وتتكون الاستبانة من جزئين الجزء الاول ويحتوي على المعلومات الشخصية والوظيفية، والجزء الثاني والذي يعنى بتحديد تقييم معرفة ومواقف الممرضين تجاه سلامة المرضى في مدينة صنعاء ، اليمن "

شاكراً لكم حسن تعاونكم.

الباحثون

المشرف:

د/ فارس مهدي

1. العمر بالسنوات
أ- أصغر من 20 سنة
ب- من 20--30 سنة
ت- من 31--40 سنة
ث- أكبر 40 سنة
2. المؤهل العلمي
أ- دبلوم تمريض اقل من ثلاث سنوات
ب- دبلوم تمريض ثلاث سنوات
ت- بكالوريوس تمريض
3. سنوات الخبرة كـ ممرض في المستشفى
أ- أقل من 5 سنوات
ب- من 5 - 10 سنوات
ت- أكثر 10 سنوات
4. هل حضرت برامج او دورات تدريبية فيما يتعلق بسلامة المرضى؟
أ- نعم
ب- لا
5. اذا نعم، كم مدة الدورات
أ- أقل من 3 ايام
ب- من 3- 6 ايام
ت- أكثر من 6 ايام
6. مكان اقامة الدورات
أ- داخل المستشفى
ب- خارج المستشفى
7. ماهي وظيفتك في هذا المستشفى؟
أ-طاقم التمريض
ب- مسؤول التمريض
ب- مشرف تمريض
د- مثقف تمريض
هـ اخرى،.....
8. الدوام الذي تعمل فيه دائماً؟
أ- صباحي
ب- مسائي
ب- ج- ليل
د- 16 ساعة

الجزء الثاني: معلومات الممرضين حول الأهداف الدولية او المعايير الدولية حول سلامة المرضى

الرقم	الهدف الأول: منع الأضرار الناجمة عن الرعاية الصحية المقدمة.	نعم	لا
1.	هل تتخذ إجراءات للوقاية من وقوع أخطاء في تقديم الرعاية الصحية؟		
2.	هل تتبع إرشادات السلامة الصحية المعترف بها لتجنب الأخطاء الطبية؟		
3.	هل تقوم بتوفير التعليم والتوجيه للمرضى وأفراد عائلاتهم بشأن السلامة والوقاية من الأضرار المحتملة؟		
4.	هل تتعاون مع فريق الرعاية الصحية الآخر في تحسين سلامة المرضى وتجنب الأخطاء؟		
5.	هل تقوم بالإبلاغ عن الأحداث غير المرغوب فيها والأخطاء المحتملة للحد من حدوثها مستقبلاً؟		
الرقم	الهدف الثاني: تحسين الاتصال بين فرق الرعاية الصحية.	نعم	لا
6.	هل تتبادل المعلومات الحاسمة بشكل فعال ودقيق مع فرق الرعاية الصحية الأخرى؟		
7.	هل توفر المعلومات الضرورية للفرق الطبية الأخرى بشكل منتظم وفي الوقت المناسب؟		
8.	هل تشجع على التواصل الفعال والمفتوح بين فرق الرعاية الصحية المختلفة؟		
9.	هل تعمل على تحسين عملية نقل المرضى بين الأقسام والمستشفيات؟		
10.	هل تقوم بتوثيق وتبادل المعلومات المهمة بشكل منتظم لتعزيز التنسيق والتواصل السلس بين الفرق؟		
الرقم	الهدف الثالث: تحسين أمان الأدوية.	نعم	لا
11.	هل تتحقق من هوية المرضى قبل تقديم الأدوية لهم؟		
12.	هل تتبع إجراءات السلامة المعترف بها عند تحضير وتوزيع الأدوية؟		
13.	هل تقوم بتوفير التعليم والتوجيه للمرضى حول الأدوية الموصوفة لهم؟		
الرقم	الهدف الرابع: تحسين السلامة الجراحية.	نعم	لا
14.	هل تتبع إجراءات السلامة الجراحية المعترف بها قبل وأثناء وبعد العمليات الجراحية؟		
15.	هل تشارك المعلومات الحاسمة مع فريق العمل الجراحي قبل إجراء العمليات الجراحية؟		

16.		للتحقق من الإجراءات المطلوبة قبل (Checklists) هل تستخدم قوائم التأكد الجراحية بدء العملية وإثناؤها وفي مرحلة الانتهاء؟
17.		هل تقوم بتوفير الرعاية اللازمة للمرضى بعد العمليات الجراحية للحد من حدوث المضاعفات وتسريع التعافي؟
18.		هل تعمل مع فرق الرعاية الصحية الأخرى لتحقيق تكامل الرعاية فيما يتعلق بالسلامة الجراحية؟
الرقم	نعم لا	الهدف الخامس: تقليل خطر العدوى المرتبطة بالرعاية الصحية.
19.		هل تلتزم بتطبيق إجراءات الوقاية من العدوى في الممارسة اليومية؟
20.		هل تتبع دليل الإرشادات الوطنية أو الدولية للوقاية من العدوى؟
21.		هل تشجع على استخدام وسائل الوقاية الشخصية المناسبة مثل القفازات والكمادات والنظارات الواقية؟
22.		هل تتعاون مع الفرق الأخرى للحد من انتشار العدوى وتطوير إجراءات واضحة للتعامل مع حالات العدوى المحتملة؟
23.		هل تقوم بتقييم ومراقبة معدلات العدوى وتطبيق إجراءات التحسين المستمر؟
الرقم	نعم لا	الهدف السادس: تحسين سلامة الرعاية في المجالات المرتبطة بالأدوية.
24.		هل تقوم بمراجعة الأدوية المستخدمة في المنشأة للتأكد من أنها آمنة وفعالة؟
25.		هل تعمل على تقليل حدوث أخطاء في توزيع الأدوية وتناولها من قبل المرضى؟
26.		هل توفر تعليمًا وإرشادات للمرضى حول استخدام الأدوية بطريقة آمنة وفعالة؟
27.		هل تتعاون مع فرق الصيدلة وفرق الرعاية الصحية الأخرى لضمان سلامة استخدام الأدوية؟
28.		هل تقوم بتوثيق ومراقبة الأحداث غير المرغوب فيها المتعلقة بالأدوية وتعمل على تحسين العملية بناءً على التعلم منها؟

الجزء الثالث: اتجاهات الممرضين حول الأهداف الدولية او المعايير الدولية حول سلامة المرضى

الرقم	اتجاهات الممرضين	موافق	محايد	غير موافق
1.	سلامة المرضى هي قضية عالمية.			
2.	معظم الأخطاء السريرية يمكن الوقاية منها.			
3.	معظم موظفي الرعاية الصحية يصنعون أخطاء.			
4.	معظم الأخطاء خارج السيطرة على الموظفين.			
5.	الطبيب المختص لا يحدث خطأ			
6.	إذا ما زلت أتعلم من أخطائي، يمكنني تجنب الحوادث.			
7.	القبول والتعامل مع أخطائي سيكون جزءا كبيرا من وظيفتي.			
8.	من الضروري بالنسبة لي الحصول على المعرفة حول أفضل السبل للاعتراف وإدارة خطأي بعد تدريبي الطبي.			
9.	الاعتراف والتعامل مع أخطائي سيكون جزءاً مهماً من وظيفتي.			
10.	إن إبلاغ أعضاء الفريق الآخرين حول الأخطاء التي أحرزتها ستكون سهلة.			
11.	من السهل العثور على شخص ما على الخطأ بدلا من التركيز على مصادر الخطأ.			
12.	أنا جريء في التحدث إلى زميلي الذي يعرض عدم الاهتمام بسلامة المريض			
13.	نعتقد أن إكمال نماذج وثائق المريض ستساعد في تعزيز سلامة المرضى.			
14.	أنا قادر على التحدث عن أخطائي الخاصة.			
15.	تلبية هدف وظيفتي هو أكثر أهمية من سلامة المرضى.			
16.	سلامة المرضى ليست مصدر قلق مهم لمهنتي.			
17.	العمل هنا هو مثل أن تكون جزءاً من عائلة كبيرة			
18.	هذا المستشفى مكان جيد للعمل			
19.	عبء العمل المفرط يضعف أدائي			
20.	أنا أقل فعالية في العمل عند التعب			
21.	مستويات التوظيف في هذا المستشفى كافي للتعامل مع عدد المرضى			
22.	هذا المستشفى يقوم بعمل جيد في تدريب الموظفين الجدد			

الملخص

الخلفية: تعد سلامة المرضى موضوعاً مهماً ذا أولوية وطنية ودولية في تقديمه. أبلغت منظمة الصحة العالمية عن

وقوع أحداث سلبية أدت إلى واحد من عشره أسباب للوفاة والإعاقة بسبب الرعاية غير الآمنة

الهدف من الدراسة: تقييم المعارف والمواقف حول سلامة المرضى بين الممرضات في المستشفيات العامة في مدينة

صنعاء.

المنهجية: مسح مقطعي. تم استخدام استبيان منظم لجمع البيانات من عينة مكونة من (٢١٣) ممرض.

النتائج: في الدراسة الحالية أغلبية (٦٥,٧٪) من أفراد عينة البحث تتراوح أعمارهم بين ٢٠ و ٣٠ سنة وأكثر من

نصفهم (٥٨,٢٪) لديهم مؤهل عملي (دبلوم) لمدة ٣ سنوات في التمريض. معظم أفراد العينة (٦٦,٢٪) لديهم خبرة أقل

من ٥ سنوات في المستشفيات الحكومية و(٦٦,٧٪) منهم حضروا برامج ودورات تدريبية تتعلق بسلامة المرضى

وتراوحت مدتها بين (٣-٦ أيام) (٢٨,٢٪). أكثر من نصف الممرضات (٥٩,٦٪) موافقات على الموقف و(٢٥,٣٪)

منهم محايدات بينما (١٥,٤٪) الممرضات غير موافقات.

الاستنتاج: توجد فروق ذات دلالة إحصائية بين معرفة واتجاهات الممرضين حول معايير سلامة المرضى تبعاً لمتغير

(فترة العمل)، ترجع إلى قيمة دلالة (٠,٠٠٤) > ٠,٠٥.

الكلمات المفتاحية: المعرفة، الموقف، سلامة المرضى، الممرضات، المستشفيات العامة، اليمن.

Republic of Yemen

Ministry of Higher Education And

Scientific Research

٢١ September University of medical &
applied science

Faculty of Nursing



الجمهورية اليمنية

وزارة التعليم العالي والبحث العلمي

جامعة ٢١ سبتمبر للعلوم الطبية
والتطبيقية

كلية التمريض

تقييم معلومات واتجاهات الممرضين حول الأهداف الدولية او المعايير الدولية حول سلامة المرضى في المستشفيات الحكومية في مدينة صنعاء- اليمن

بحث مقدم إلى كلية التمريض ، جامعة ٢١ سبتمبر لاستكمال متطلبات نيل درجة

البكالوريوس في علوم التمريض

إعداد الباحثين

أحمد حسين أحمد النميري

عبد المجيد ناصر حسين الامروزي

عائشة حميد حمود الكولي

عبدالحليم يحيى يحيى صولان

إيفان علي صالح الحصمة

عتاب ذي يزن فاضل الكبودي

تهاني ناجي صالح الجبري

حنان أحمد عبدالرحمن عبده

صلاح عبد اللطيف عبد الخالق القوسي

محمد عبده جبران عس

يحيى أحمد أحمد خموسي

تغريد محمد مصلح العواضي

إشراف

الدكتورة: فارس علي محمد مهدي

استاذ مساعد تمريض صحة المجتمع

كلية التمريض

جامعة اسبوط

١٤٤٥ هـ