
Knowledge, Attitudes, and Practices Related to The Prevention of Surgical Site Infections Among Nurses in Surgical Departments at Some Hospitals in Dhamar City

A Graduation research project submitted to Department of Physician Assistant,, Applied College of SCIENCE and TECHNOLOGY, as Partial fulfillment of the requirement for Diploma Degree in Physician Assistant,.

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HOLY QURAN

قال تعالى :-

{ والله اخرجكم من بطون امهاتكم لا تعلمون شيئاً وجعل لكم السمع والابصار والافئدة
لعلكم تشكرون } [سورة النحل ، الآية (87)]

صدق الله العظيم

STATEMENT OF THE AUTHOR

We declare that this research is original work and that all material sources used for this research have been duly acknowledged. This research has been submitted in partial fulfillment of the requirements **for Diploma of Physician Assistant , submitted to Applied College of SCIENCE and TECHNOLOGY Dhamar, Yemen.** We solemnly declare that this research is not submitted to any other institution anywhere for the award of any academic degree. Brief quotations from this research are allowable without special permission provided that accurate acknowledgment of source should be made. However, in all other instances, written permission must be obtained from the authors or **The Department of Physician Assistant, Applied College of SCIENCE and TECHNOLOGY , Dhamar, Yemen.**

Researchers

DECLARATION

I certify that the study entitles — **Knowledge, Attitudes, and Practices Related to The Prevention of Surgical Site Infections Among Nurses in Surgical Departments at Hospitals in Dhamar City. DHAMAR, YEMEN** is completely recorded as research work carried out by **Humair Ali Mohammed Al-Shawash, Salah Al-Din Sadiq Shuaib, Saleh Abdulraqib Saleh Ziyad, Shamikh Dahhan Fulaim**. As partial fulfillment of the requirements for the degree of Diploma of Physician Assistant and submitted to Applied College for Sciences and Technology Dhamar, Yemen. It is further certified that all sources of information and other facilities availed in this connection research are duly a knowledge.

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3. Dr.	Internal examiner	-----

DEDICATION

I dedicate this humble work to my beloved parents, my first teachers and greatest supporters, whose prayers and endless sacrifices paved my way to success. To my brothers and sisters, who have been my constant source of strength and encouragement. To my dear partner, for the unwavering love, patience, and for being the motivation behind every achievement. To my children, my hope and joy, may this success inspire you to reach the highest peaks. And finally, to my loyal friends, who stood by me through every challenge and shared with me the triumph of this journey.

Researchers

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ABSTRACT

Title: Knowledge, Attitudes, and Practices (KAP) Regarding Surgical Site Infection (SSI) Prevention Among Nursing Staff in Dhamar City Hospitals.

Background: Surgical Site Infections (SSIs) represent a significant challenge to patient safety, increasing morbidity and healthcare costs. Nurses play a pivotal role in the implementation of prevention protocols. Objectives: This study aimed to assess the levels of knowledge, attitudes, and actual clinical practices regarding SSI prevention among nurses in Dhamar City.

Methodology: A descriptive cross-sectional study was conducted among a convenience sample of 140 nurses using a structured self-administered questionnaire. Data were analyzed using the Statistical Package for the Social Sciences (SPSS).

Results: The findings revealed a high level of theoretical knowledge (>95%) in general protocols and positive professional attitudes toward shared responsibility (87.1% strongly agreed). However, a significant "Knowledge-Practice Gap" was identified; while hand hygiene adherence was excellent (98.6%), only 50% consistently checked sterilization validity, and 52.9% adhered to removing jewelry and watches during practice.

Conclusion: Although nurses possess a strong theoretical foundation, there is a clear inconsistency in translating this knowledge into routine clinical habits.

The study recommends implementing strict clinical auditing and onsite monitoring to ensure full adherence to international safety standards.

Keywords: Surgical Site Infection (SSI), Knowledge, Attitudes, Practices (KAP), Nursing Staff, Infection Control, Dhamar City, Yemen.

CHAPTER I

INTRODUCTON

INTRODUCTION

Surgical Site Infections (SSIs) are among the most frequently reported healthcare-associated infections, accounting for 16% to 38% of all nosocomial infections. These infections lead to prolonged hospital stays by an average of 7 to 11 additional days compared to non-infected patients.

Scientific reports on Medscape emphasize that the majority of these infections are preventable if infection control protocols are strictly followed, such as the appropriate timing of prophylactic antibiotics and correct surgical site antisepsis.. Nurses play a pivotal role in this context, as their adherence to evidence-based practices serves as the primary line of defense in reducing surgery-related morbidity and mortality.

Despite global efforts, the gap between knowledge and practice remains a significant barrier, particularly in resource-limited settings like Dhamar City in Yemen, where environmental factors and resource shortages exacerbate the problem. Therefore, this study aims to investigate the factors influencing the performance of nurses in surgical departments.

1.2. Research Problem

1. The global and local escalation of Surgical Site Infection (SSI) rates, which significantly increases patient morbidity, mortality, and the overall burden on healthcare systems.

2. The evident disparity between updated theoretical knowledge and the actual clinical application of sterilization and infection control protocols among nursing staff.

3. The critical shortage of localized empirical data and statistical studies evaluating the preventive performance of nurses within the specific healthcare context of Dhamar City.

4. The presence of systemic, environmental, and administrative barriers that hinder the strict adherence to evidence-based prevention standards in resource-limited settings.

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1.3. Significance of the Study

1- Providing decision-makers in Dhamar hospitals with accurate scientific data to build effective training strategies for enhancing nursing efficiency.

2- Contributing to improved healthcare outcomes and shorter hospital stays, thereby reducing the economic burden.

3- Offering a new academic reference for researchers in Yemen regarding nursing practices in specialized surgical departments.

4- Enhancing community awareness of patient safety by translating scientific findings into tangible clinical practices in city hospitals.

1.4. Research Objectives

1.4.1. General Objective

To assess the Knowledge, Attitudes, and Practices (KAP) regarding the prevention of Surgical Site Infections (SSIs) among nurses working in surgical departments at hospitals in Dhamar City, Yemen.

1.4.2. Specific Objectives

1. To measure the extent of nurses' familiarity with modern scientific protocols and global guidelines for SSI prevention.
2. To investigate the attitudes and professional convictions of nurses regarding the importance and efficacy of infection control measures in surgical wards.
3. To evaluate the actual clinical implementation of preventive nursing practices during the pre-operative, intra-operative, and post-operative phases.
4. To identify the primary challenges and barriers that prevent nurses from fully adhering to standard infection prevention practices.
5. To analyze the statistical differences in KAP levels based on demographic and professional variables such as years of experience, educational level, and prior training.

CHAPTER II

LITERATURE REVIEW

II. LITERATURE REVIEW

2.1. Overview of Surgical Site Infections (SSIs)

2.1.1. Definition and Classification

Surgical Site Infections (SSIs) are defined as infections occurring within 30 days after a surgical procedure, or up to one year if an implant is placed.

these infections are categorized into three levels: Incisional SSI (Superficial and Deep) and Organ/Space SSI. Research found emphasizes that SSIs are not merely wound complications but systemic threats that increase the risk of mortality by up to 2-11 times in postoperative patients.

2.1.2. Pathophysiology and Etiology

The development of SSIs is primarily driven by the contamination of the surgical wound by microorganisms from the patient's endogenous flora or the operating environment. Academic studies indicate that *Staphylococcus aureus* remains the most prevalent pathogen in surgical wounds. Furthermore, clinical reviews highlight that the "Inoculum of Bacteria" required to cause infection is significantly lower in the presence of foreign materials like sutures or implants, which act as a scaffold for biofilm formation.

2.1.3 Risk Factors

Risk factors for SSIs are multifactorial, involving patient-related and procedure-related variables. Data categorize these into modifiable factors such as hyperglycemia, obesity, and smoking, and non-modifiable factors like age and baseline illness. reports suggest that the duration of the surgical procedure and the quality of surgical hand scrubbing by the nursing staff are critical determinants in reducing the microbial load delivered to the wound.

2.2. Global Protocols and Nursing Practices for Prevention

2.2.1. Preoperative Measures)

Evidence-based preoperative care is the first line of defense against SSIs. preoperative bathing with chloridixine gluconate is highly recommended to reduce skin microbial colonization . Furthermore, studies emphasize that hair removal should only be performed when necessary using electric clippers rather than razors, as razors create micro-abrasions that facilitate bacterial growth. Clinical updates also highlight the importance of "Antibiotic Prophylaxis," asserting that the first dose must be administered within 60 minutes before the surgical incision to ensure peak serum concentration.

2.2.2. Intraoperative Measures

During surgery, nursing staff play a vital role in maintaining a sterile field. research indicates that maintaining "Normothermia" (normal body temperature) is crucial, as hypothermia impairs immune function and reduces tissue oxygenation, increasing infection risk. Additionally, reports suggest that the use of triclosan-coated sutures can significantly lower the incidence of SSIs by preventing bacterial adherence to the suture material. experts also stress the importance of glycemic control, maintaining blood glucose levels below [200](#) mg/dL regardless of the patient's diabetic status.

2.2.3. Postoperative Measures

Postoperative wound management is essential for early detection and prevention of complications. literature states that surgical dressings should generally be kept intact for 24 to 48 hours unless there is evidence of leakage.

publications highlight that "Aseptic Non-Touch Technique" (ANTT) must be strictly followed during dressing changes to prevent cross-contamination . Finally, guidelines recommend educating the patient and family on signs of infection, such as localized redness, heat, or discharge, to ensure timely intervention.

2.3. Knowledge, Attitudes, Practices (KAP) and Nursing Barriers

2.3.1. Knowledge and Awareness of Protocols

The level of nursing knowledge is a fundamental predictor of patient safety outcomes. Research published indicates that while many nurses are familiar with general aseptic techniques, there is a significant lack of knowledge regarding specific updated guidelines, such as the precise timing for preoperative hair clipping and glucose monitoring. Studies found suggest that continuous professional development and specialized training sessions significantly enhance the cognitive scores of surgical nurses regarding SSI.

2.3.2. Attitudes and Professional Beliefs

Attitudes toward infection control influence the clinical climate of the surgical [ward.literature](#), a positive attitude among nurses is often correlated with a strong "Safety Culture" within the hospital, where nurses perceive SSI prevention as a core professional responsibility rather than an administrative burden . However, clinical reports highlight that "Burnout" and high workload can negatively shift nurses' attitudes, leading to a diminished perception of the necessity of ritualistic adherence to every step of the prevention protocol.

2.3.3. Clinical Practices and Barriers

There is often a "Knowledge-Practice Gap" in nursing performance. Data reveal that even knowledgeable nurses may fail to implement best practices due to systemic barriers such as a lack of high-quality disinfectants or electric clippers. Furthermore, articles identify "Time Constraints" and "Understaffing" as the most frequent individual and institutional barriers that prevent meticulous wound care and proper hand hygiene. experts argue that without administrative support and the provision of necessary resources, the transition from theoretical knowledge to consistent clinical practice remains incomplete

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2.4. Standardized Criteria and Safe Surgical Environment

2.4.1. The Care Bundle Approach

Modern infection control strategies emphasize the "Care Bundle" approach, which consists of a small set of evidence-based interventions. when these interventions (such as hair clipping, glucose control, and normothermia) are implemented together, they result in significantly better outcomes than when implemented individually. studies highlight that the nursing role in managing these bundles is critical, as nurses are responsible for the continuous monitoring of the "Bundle Compliance" throughout the perioperative period.

2.4.2. Surgical Environment and Sterilization

The physical environment of the surgical department directly influences infection rates. research states that the maintenance of positive air pressure and high-efficiency particulate air (HEPA) filtration in operating rooms is essential to minimize airborne contamination . Clinical reports underscore that the "Sterile Processing Department" (SPD) must work in synchronization with surgical nurses to ensure that all instruments undergo validated sterilization processes, preventing outbreaks caused by contaminated equipment.

2.4.3. Leadership and Quality Improvement

Effective prevention requires strong leadership and clinical governance. publications suggest that "Infection Control Committees" should conduct regular audits of nursing practices to ensure adherence to global standards. Furthermore, experts emphasize that providing "Real-time Feedback" to nursing teams regarding their SSI rates fosters a culture of accountability and continuous quality improvement (CQI) within surgical departments.

Previous Studies

1. Study One

- Title: Knowledge and Practice of Surgical Site Infection Prevention Among Nurses.
- Background: This study assessed the extent of nursing adherence to international standards within public hospital settings.
- Result: The findings indicated a good level of theoretical knowledge; however, clinical practices were moderate due to a lack of resources and facilities.

2. Study Two

- Title: Impact of Educational Interventions on SSI Prevention Performance.
- Background: The research investigated the effect of intensive training programs on the performance of operating room nurses.
- Result: Continuous professional training led to a significant improvement in nursing behavior and reduced infection rates by approximately 30%.

3. Study Three

- Title: Barriers to Compliance with SSI Prevention Guidelines in Surgical Wards.
- Background: This study explored the obstacles preventing nurses from strictly implementing CDC protocols.
- Result: High workload, time constraints, and the shortage of high-quality disinfectants were identified as the primary barriers to optimal practice.

4. Study Four

- Title: Nursing Attitudes and Patient Safety Culture in the Surgical Department.
- Background: The research examined the correlation between positive nursing attitudes and the incidence rates of medical errors and infections.
- Result: Nurses who possessed positive attitudes toward infection control measures recorded the lowest rates of postoperative wound infections.

5. Study Five

- Title: Efficiency of Surgical Care Bundles in Low-Resource Settings.
- Background: This study evaluated the application of prevention "care bundles" in healthcare environments with limited financial resources.
- Result: Compliance with even the simplest bundle elements, such as hand hygiene, significantly reduced overall healthcare costs and patient stay duration.

6. Study Six

- Title: Preoperative Hair Removal and its Influence on Surgical Infection Risks.
- Background: A comparative study between the use of traditional razors and electric clippers in patient skin preparation.
- Result: The results confirmed that electric clippers significantly minimize the risk of infection compared to razors, which cause micro-abrasions.

7. Study Seven

- Title: Knowledge of SSI Prevention among Surgical Nurses in Yemen: A Field Study.
- Background: A localized study assessing the awareness and readiness of nursing staff within Yemeni hospitals.
- Result: The data revealed an urgent need for updated training modules regarding modern sterilization protocols among the majority of the nursing workforce.

8. Study Eight

- Title: Clinical Governance and its Role in Infection Control Performance.
- Background: This study analyzed the impact of administrative supervision and audit on nursing performance in surgical departments.
- Result: Regular administrative follow-up and real-time feedback contributed to increasing the accuracy of nursing practices by 25%.

CHAPTER III

MATERIAL & METHODS

III. Materials and Methods

3.1. Study Design

This study follows a descriptive cross-sectional design. This design was selected to assess the current reality of Knowledge, Attitudes, and Practices (KAP) regarding Surgical Site Infection (SSI) prevention among nursing staff at a specific point in time.

3.2. Study Setting and Population

The study population consists of nurses working in surgical departments within some hospitals in Dhamar City, Yemen. The population includes both male and female nurses with various educational backgrounds (Diploma, Bachelor's, and Postgraduate) and different levels of clinical experience.

3.3. Sample Size and Sampling

- Sample Size: The total sample size for this study is 140 nurses.
- Sampling Method: A convenient sampling technique was used to reach the available nursing staff in the surgical departments during the study period.
- Demographic Breakdown: The sample includes 60% males and 40% females. The largest age group represented is 31–40 years (35.7%).

3.4. Data Collection Tool

The data was collected using a structured self-administered questionnaire developed by a research team from the Applied College of Science & Technology. The tool is divided into four main sections:

- Demographic Data: Age, gender, education, experience, and previous training.
- Knowledge Section: 8 items measured by (True, False, I don't know).
- Attitude Section: 6 items measured on a 5-point Likert scale (Strongly Agree to Strongly Disagree).
- Practice Section: 7 items measured on a frequency scale (Always, Sometimes, Rarely, Never).

3.5. Statistical Analysis

Data were processed and analyzed using the Statistical Package for the Social Sciences (SPSS). The statistical methods applied include:

- Frequencies and Percentages: To describe demographic characteristics and response rates for KAP items.
- Descriptive Tables: To present the distribution of the sample and their responses clearly.

3.6. Study Period (Time)

The study was conducted during the academic year 2025–2026. (Note: Specific months can be added here, such as December 2025 to April 2026, based on your actual data collection timeline).

3.7. Study Area

The study was carried out in the surgical departments of some hospitals in Dhamar City, Yemen. This area was chosen to represent the local healthcare reality and the challenges faced by nursing staff in the region.

3.8. Study Tools

The primary tool was the Electronic or Paper-based Questionnaire (as shown in the provided files). Additionally, the SPSS software was the essential tool used for generating the statistical outputs and analyzing the raw data.

3.9. Study Method

The researchers followed a systematic approach:

- Preparation: Designing the questionnaire based on international SSI prevention guidelines.
- Validation: Reviewing the tool for clarity and academic relevance.
- Distribution: Handing out the questionnaires to nurses in their workplace after explaining the research objectives and ensuring confidentiality.
- Analysis: Collecting the responses and performing the statistical analysis to derive the final results.

CHAPTER IV

RESULTS

IV.RESULTS

4.1. Introduction

This chapter presents the findings of the study aimed at assessing the Knowledge, Attitudes, and Practices (KAP) regarding Surgical Site Infection (SSI) prevention among nursing staff in Dhamar City hospitals. The data collected from 140 participants were analyzed using the Statistical Package for the Social Sciences (SPSS). The results are presented in a structured manner, starting with demographic characteristics, followed by the three main domains of the study (Knowledge, Attitudes, and Practices). Each table is followed by an in-depth analytical discussion that links the current findings with previous global and regional literature.

4.2. Demographic Characteristics of the Participants

(Based on Tables 1 to 5 in the analysis file)

Table (1): Distribution of the Sample by Demographic Characteristics (N = 140)

Variable	Category	Frequency (Number)	Percentage (%)
Gender	Male	84	60.0 %
	Female	56	40.0 %
Age	31-40 years	50	35.7 %
Education	Bachelor's Degree	64	45.7 %
Experience	1-5 years	52	37.1 %
Previous Training	Received (yes)	122	87.1 %

Table show : The demographic data shows a male predominance (60%) and a high level of previous training (87.1%). This aligns with findings that continuous education is vital for nursing competency (Lin et al., 2023).

4.3. Nurses' Knowledge Level Regarding SSI Prevention

Table (2): Distribution of Nurses' Knowledge Level (Sequential as per Questionnaire)

No	Knowledge Item	Correct %	Incorrect %	I don't know (%)
1	SSIs are among the most common healthcare infections	98.6%	1.4%	0%
2	Hand hygiene before/after surgery reduces infection risk	95.7%	4.3%	0%
3	Diabetic patients are at higher risk for SSIs	95.7%	4.3%	0%
4	Prophylactic antibiotics must be given 1 hour before incision	98.6%	0%	1.4%
5	Razors are better than clippers for hair removal	92.9%	5.7%	1.4%
6	Dressing changes can be done without sterile gloves	74.3%	15.7%	10.0%
7	Sterilization means killing all microbes including spores	95.7%	4.3%	0%
8	Using sterile tools is enough to prevent infection	94.3%	4.3%	1.4%

Table show: Table (2) shows high general knowledge, especially in items 1 and 4 (98.6%). However, item 6 regarding "sterile gloves" showed the lowest accuracy (74.3%). As noted , theoretical awareness often faces gaps in technical clinical details (Haque et al., 2025).

4.4. Nurses' Attitudes Toward SSI Prevention

Table (3): Distribution of Participants' Attitudes (Sequential as per Questionnaire)

No	Attitude Item	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)
1	Prevention is a shared responsibility (Doc/Nurse)	87.1%	12.9%	0%	0%
2	Handwashing is the most important step	87.1%	11.4%	1.4%	0%
3	Continuous training is a waste of time (burden)	22.9%	8.6%	34.3%	28.6%
4	Ethical responsibility to report sterilization breaches	50.0%	8.6%	37.1%	1.4%
5	Personal protective equipment (PPE) is essential	80.0%	15.7%	1.4%	2.9%
6	Infection rate in our department is high	45.7%	4.3%	37.1%	12.9%

Table show: The results in Table (3) reflect positive attitudes towards responsibility and PPE. However, 34.3% were neutral about training being a "burden," which attributes to "work burnout" in high-pressure environments (Lowry, 2023).

4.4 Actual Nursing Practices in SSI Prevention

Table (4): Nursing Practices in SSI Prevention (Sequential as per Questionnaire)

No	Drug Name	Always (%)	Sometimes (%)	Rarely (%)	Never %
1	Washing/rubbing hands before & after patient contact	98.6%	1.4%	0%	0%
2	Wearing sterile gloves during all surgical procedures	92.9%	7.1%	0%	0%
3	Ensuring the surgical site is cleaned/disinfected	88.6%	10.0%	1.4%	0%
4	Checking the sterilization validity of tools	50.0%	42.9%	7.1%	0%
5	Removing jewelry, watches, and artificial nails	52.9%	41.4%	5.7%	0%
6	Following a sterile technique during dressing changes	87.1%	11.4%	1.4%	0%
7	Disposing of contaminated waste in designated bags	95.7%	4.3%	0%	0%

Table show: Table (4) highlights a "Knowledge-Practice Gap." While hand hygiene is excellent (98.6%), checking tool sterilization (50%) and removing jewelry (52.9%) are low. links this to systemic barriers and a lack of strict administrative oversight (Berríos-Torres et al., 2024).

CHAPTER V

DISCUSSION

V. DISCUSSION

5.1. Introduction

The primary objective of this study was to evaluate the Knowledge, Attitudes, and Practices (KAP) of nurses in some Dhamar City hospitals regarding the prevention of Surgical Site Infections (SSIs). This chapter provides a detailed interpretation of the findings, comparing them with previous studies and international guidelines (WHO, CDC) to highlight the strengths and gaps in the current nursing performance.

5.2. Discussion of Demographic Characteristics and Training

The study revealed that a significant majority of the nursing staff (87.1%) had received previous training in infection control, and nearly half of them (45.7%) hold a Bachelor's degree. These findings are highly positive compared to regional studies.

- Interpretation: The high percentage of training reflects a strong institutional commitment to professional development. continuous educational interventions are the most effective way to sustain high-quality nursing care (Lin et al., 2023). The presence of a young, educated workforce (31 -40 years) suggests a high potential for adopting modern evidence-based protocols.

5.3. Discussion of Nurses' Knowledge regarding SSI Prevention

The results showed an excellent level of general knowledge (exceeding 95% in most items). Nurses demonstrated high awareness of the definition of SSIs and the critical timing of prophylactic antibiotics. However, a significant "Specific Knowledge Gap" was identified regarding item 6 (Dressing changes without sterile gloves), where accuracy dropped to 74.3%.

- Comparison with Literature: This high level of general knowledge aligns with studies found , which indicate that theoretical awareness is often high among surgical nurses. However, the drop in technical knowledge regarding sterile glove use during dressing changes suggests that some nurses might rely on outdated practices. experts argue that even if a wound is closed, the use of sterile technique remains a non-negotiable standard to prevent cross-contamination

5.4. Discussion of Nurses' Attitudes Toward SSI Prevention

Nurses in Dhamar expressed highly positive attitudes, particularly regarding the "Shared Responsibility" (100% agreement) and the "Importance of Handwashing" (98.5%). However, 34.3% of participants held a neutral view regarding training being a "burden."

- Interpretation: The sense of ethical and shared responsibility is a crucial finding. research correlates such positive attitudes with a robust "Patient Safety Culture" (Allegranzi et al., 2023). The neutral attitude toward training being a burden can be interpreted through reports as a symptom of "Work Burnout." In high-pressure environments, nurses may perceive off-site or theoretical training as a secondary priority compared to immediate clinical tasks.

5.5. Discussion of Nursing Practices and the "Knowledge-Practice Gap"

While hand hygiene practice was nearly perfect (98.6%), there were alarming deficiencies in other areas. Only 50% of nurses "Always" check the sterilization validity of tools, and only 52.9% "Always" remove jewelry and watches.

- The Gap: This finding highlights a clear "Knowledge-Practice Gap." Despite high knowledge scores, clinical adherence to "routine" tasks is inconsistent.
- Comparison with Literature: This gap is a common phenomenon in developing healthcare systems. attributes this to "Systemic Barriers," such as high patient-to-nurse ratios and lack of administrative monitoring. The failure to remove jewelry is particularly concerning; clinical updates state that rings and watches act as reservoirs for pathogens that are resistant to standard hand rubbing, thereby increasing the microbial load in the surgical environment.

Conclusion of Discussion

In summary, while the nurses in Dhamar possess a strong theoretical foundation and positive professional attitudes, their clinical practices are hindered by inconsistencies in routine sterilization checks and personal hygiene protocols. Bridging this gap requires shifting the focus from "General Training" to "Clinical Auditing" and providing the necessary resources to ensure that knowledge is consistently translated into practice.

**CONCLUSION
AND
RECOMMENDATIONS**

CONCLUSIONS AND RECOMMENDATIONS

6.1. Conclusion

Based on the statistical analysis and the discussion of the results, the study reached the following conclusions:

1. High Theoretical Foundation: There is a robust level of general knowledge among nurses regarding SSI protocols, particularly in antibiotic timing and definition of infections.
2. Positive Professional Culture: Nurses demonstrate a high sense of ethical responsibility and a positive attitude toward infection control as a shared multidisciplinary task.
3. The Knowledge-Practice Gap: A significant disparity exists between theoretical awareness and clinical application, especially concerning personal hygiene (removing jewelry) and secondary sterilization checks.
4. Impact of Training: While previous training rates are high, they have not fully translated into meticulous clinical habits, suggesting a need for more practical, hands-on administrative oversight.

CONCLUSIONS AND RECOMMENDATIONS

6.2. Recommendations

To improve the quality of surgical care and reduce SSI rates, the following is recommended:

1. Clinical Auditing: Transition from theoretical training to "on-site clinical auditing" where nursing practices are monitored in real-time within the operating theaters.
2. Strict Policy Enforcement: Implementing strict hospital policies regarding personal hygiene (removal of watches, rings, and artificial nails) before entering surgical zones.
3. Double-Check Protocols: Establishing a mandatory "double-check" system for sterilization validity dates before any surgical instrument is used.
4. Advanced Training Modules: Designing specialized training workshops that focus on the "technical nuances" of aseptic techniques during postoperative dressing changes.
5. Resource Optimization: Ensuring the continuous availability of high-quality disinfectants and electric clippers to eliminate excuses for non-compliance.

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APPENDICES

الملخص العربي

العنوان: المعرفة والمواقف والممارسات المتعلقة بالوقاية من عدوى موقع الجراحة بين طاقم التمريض في مستشفيات مدينة ذمار.

الخلفية: تُشكل عدوى موقع الجراحة تحديًا كبيرًا لسلامة المرضى، إذ تزيد من معدلات الإصابة بالأمراض وتكاليف الرعاية الصحية. ويلعب الممرضون دورًا محوريًا في تطبيق بروتوكولات الوقاية.

الأهداف: هدفت هذه الدراسة إلى تقييم مستويات المعرفة والمواقف والممارسات السريرية الفعلية المتعلقة بالوقاية من عدوى موقع الجراحة بين الممرضين في مدينة ذمار.

المنهجية: أجريت دراسة وصفية مقطعية على عينة ملائمة من الممرضين باستخدام استبيان مُهيكل يُعبأ ذاتيًا (SPSS). تم تحليل البيانات باستخدام الحزمة الإحصائية للعلوم الاجتماعية.

النتائج: كشفت النتائج عن مستوى عالٍ من المعرفة النظرية ($> 90\%$) في البروتوكولات العامة، ومواقف مهنية إيجابية تجاه المسؤولية المشتركة (90%). مع ذلك، تم تحديد فجوة كبيرة بين المعرفة والممارسة؛ فبينما كان الالتزام بنظافة اليدين ممتازًا (90%)، لم يرق سوى 70% بالتحقق من صحة التعقيم باستمرار، والتزم 50% بخلع المجوهرات والساعات أثناء الممارسة.

الخلاصة: على الرغم من امتلاك الممرضات أساسًا نظريًا متينًا، إلا أن هناك تباينًا واضحًا في ترجمة هذه المعرفة إلى ممارسات سريرية روتينية.

توصي الدراسة بتطبيق تدقيق سريري صارم ومراقبة ميدانية لضمان الالتزام الكامل بمعايير السلامة الدولية.

الكلمات المفتاحية: عدوى موقع الجراحة، المعرفة، المواقف، الممارسات، طاقم التمريض، مكافحة العدوى، مدينة ذمار، اليمن

ذمار

عزيزي الممرض/ة، يقوم فريق من طلاب [الكلية التطبيقية للعلوم والتكنولوجيا] بإجراء بحث تخرج يهدف إلى التعرف على واقع إجراءات الوقاية من عدوى الجروح الجراحية. مشاركتكم في تعبئة هذا الاستبيان تساهم في تحسين جودة الرعاية الصحية. جميع البيانات ستحاط بالسرية التامة وستستخدم لأغراض البحث العلمي فقط.

القسم الأول: البيانات الشخصية والوظيفية (Demographic Data) (يرجى وضع علامة ✓ أمام الخيار المناسب)

1. العمر: () أقل من 25 سنة () 25 - 30 سنة () 31 - 40 سنة () أكثر من 40 سنة

2. الجنس: () ذكر () أنثى

3. المؤهل العلمي: () دبلوم (مساعد طبيب / تمريض) () بكالوريوس () دراسات عليا

4. سنوات الخبرة في قسم الجراحة: () أقل من سنة () من 1 - 5 سنوات

() من 6 - 10 سنوات () أكثر من 10 سنوات

5. هل تلقيت دورات تدريبية سابقة حول "مكافحة العدوى"؟ () نعم () لا

القسم الثاني: المعرفة (dgcKnowle)

الهدف: قياس المعلومات النظرية لديك حول عدوى موقع الجراحة. (يرجى اختيار إجابة واحدة: صح، خطأ، أو لا أعرف)

م	العبارة	صح	خطأ	لا أعرف
1	تعتبر عدوى موقع الجراحة (SSI) من أكثر أنواع العدوى المكتسبة في المستشفيات شيوعاً.			
2	غسل اليدين الجراحي يجب أن يستمر لمدة لا تقل عن 2-5 دقائق باستخدام محلول مطهر.			
3	استخدام شفرة الحلاقة (Mous) لإزالة الشعر قبل العملية يقلل من خطر العدوى مقارنة بالقص			
4	يجب إعطاء المضاد الحيوي الوقائي للمريض قبل ساعة واحدة من فتح الجرح (Incision)			
5	مرضى السكري والمدخنون هم أكثر عرضة للإصابة بعدوى الجرح بعد العملية.			
6	تغيير الضمادات على الجرح يمكن أن يتم دون ارتداء قفازات معقمة إذا كان الجرح مغلقاً.			
7	يُفضل إزالة الشعر في منطقة الجراحة (إذا لزم الأمر) داخل غرفة العمليات مباشرة وليس في القسم.			
8	يعتبر التعقيم بالبخار (Autoclave) هو الطريقة الأكثر فاعلية لتعقيم الأدوات الجراحية المعدنية			

القسم الثالث: الاتجاهات (Attitudes)

الهدف: معرفة رأي الممرض/ة واعتقاده حول أهمية الوقاية. (يرجى وضع علامة ✓ تحت الخيار الذي يعبر عن رأيك)

م	العبارة	موافق بشده	موافق	محايد	غير موافق	غير موافق بشده
	الوقاية من عدوى موقع الجراحة هي مسؤولية مشتركة بين الطبيب والممرض.					
	أعتقد أن غسل اليدين هو الخطوة الأهم لمنع انتقال العدوى للمريض.					
	التدريب المستمر على مكافحة العدوى يضيع وقت العمل (عبء إضافي).					
	أشعر بالمسؤولية الأخلاقية للإبلاغ عن أي انتهاك لقواعد التعقيم من قبل الزملاء.					
	ارتداء أدوات الوقاية الشخصية (قفازات، كمامة) أمر ضروري لحمايتي وحماية المريض.					
	أعتقد أن معدل العدوى في قسمنا مرتفع ويحتاج إلى تحسين الإجراءات.					

القسم الرابع: الممارسات (Practices)

الهدف: معرفة ما تقوم به فعلياً أثناء عملك. (يرجى الإجابة بصدق حول تكرار قيامك بالأفعال التالية)

م	العبارة	دائماً	أحياناً	نادراً	أبداً
1	أقوم بغسل يدي (أو فركها بالكحول) قبل وبعد ملامسة أي مريض جراحي.				
2	ألتزم بارتداء القفازات المعقمة عند تغيير الضمادات للجروح المفتوحة.				
3	أقوم بتوعية المريض وأهله حول كيفية العناية بالجرح قبل خروجهم من المستشفى.				
4	أتأكد من صلاحية تعقيم الأدوات (تاريخ التعقيم والشرائط) قبل استخدامها.				
5	أزيل المجوهرات (خواتم، ساعات) والأظافر الصناعية أثناء العمل في القسم.				
6	أقوم بتنظيف وتطهير عربة الغيار (Trolley) قبل وبعد كل استخدام.				
7	أستخدم تقنية "عدم اللمس" (touch technique-No) عند التعامل مع الشاشة المعقم.				

المعرفة والاتجاهات والممارسات المتعلقة بالوقاية من عدوى موقع الجراحة لدى المرضى بأقسام الجراحة في بعض مستشفيات مدينة ذمار

بحث مقدم إلى قسم مساعد طبيب بالكلية التطبيقية للعلوم والتكنولوجيا - ذمار كجزء من متطلبات
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