Vol. 4 No. 3 (2025)

Pakistan Journal of Medical & Cardiological Review

https://pakjmcr.com/index.php/1/about

Online ISSN 3007-2387

Print ISSN 3007-2379

ASSESS THE LEVEL OF KNOWLEDGE OF NURSES REGARDING BURN PATIENT MANAGEMENT IN A TERTIARY CARE HOSPITAL KPK A CROSS-SECTIONAL STUDY

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Keywords: Level of Knowledge, Among Nurse, Outcomes, Experience

Received on 15 Aug 2025
Accepted on 10 Sep 2025
Published on 21 Sep 2025

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Abstract

Burn injuries are traumatic and result from exposure to thermal, chemical, electrical, or radiation sources, causing varying degrees of tissue damage categorized as first-degree, second-degree, or third-degree burns (R. Mohammed et al., 2021). In nursing, comprehensive burn care knowledge is crucial as nurses manage all aspects of burn treatment, including wound cleansing, debridement, and applying appropriate dressings (S. A. Mohammed, 2016). They must vigilantly monitor for complications and adjust treatment strategies to ensure optimal outcomes (Dogra, 2004). Specialized tools, like the Rule of Nines or Lund and Browder chart, are used for accurate burn assessment, guiding treatment and

rehabilitation (Hussein Mukhlif & Alwan Mansour, 2021), while nurses also play a key role in triaging burn

This chapter outlines the research methods employed in the study, including its descriptive cross-sectional design and the inclusion of three tertiary hospitals in Peshawar (3.2, 3.3). The study, lasting six months, involves a sample size of 305 determined through a

Confidence level of 95% and uses convenient sampling for participant selection (3.4, 3.5, 3.6) Data will be collected using a structured questionnaire and analyzed to present findings in graphical or tabular formats (3.10, 3.11). The study reveals key insights into burn care expertise among healthcare professionals, highlighting that 56.7% of respondents are aged 24-29 and that 67.9% are female. Most participants (54.1%) have received specific burn care training, and 87.9% feel capable of providing psychological support to burn patients. Correlation analysis shows that knowledge of dressing methods and sterilization techniques are strongly related, emphasizing the need for integrated training across various aspects. The study reveals a generally strong grasp of burn care principles among respondents, with high confidence in skills like pain assessment and vital sign measurement. However, it also highlights areas needing improvement, such as documentation practices, antibiotic use, and respiratory assessment. Future research should focus on evaluating educational strategies and their impact on patient outcomes to enhance burn care delivery

Introduction

In medical history burns are considered as a severe condition. People of different ages from children to old people are affected by this. Everyone has gone through the severe pain that a small burn caused. Although the feeling of pain and distress caused by a big burn are not confined to rapid incident.

Medical assistance is needed when burns are more severe as they leave marks which can result in complications. Health history of patient has quite an impact on his care.

Nurses have significant part in this regard. Nurses who look after burn patients should have proper knowledge on the physical effects resulted due to burning. Nurses who treat burn victims help them not just during initial trauma but also during recovery and post trauma therapy.(Sanathanoon Ahmad, 2019)

In exploring the historical significance of burns in the medical context, it becomes evident that these injuries have long been recognized as a serious and potentially debilitating condition. Across various age groups, from children to the elderly, individuals have been susceptible to the painful and distressing consequences of burns. While even minor burns can evoke significant discomfort, the repercussions of more severe burns extend far beyond the initial incident, often necessitating medical intervention and ongoing care.(Jaam et al., 2021) The severity of burns is a crucial determinant of the required level of medical assistance, as more extensive burns can result in lasting marks and potential complications. Understanding the health history of each patient is paramount, as pre-existing conditions and individual factors can significantly impact their care and treatment outcomes.

Within the colony of burn patient management, nurses play a pivotal role in providing comprehensive care and support. Nurses tasked with the care of burn patients must possess a thorough understanding of the physical effects that result from burns, encompassing not only the immediate trauma but also the long-term implications for recovery and post-trauma therapy.(Sulosaari et al., 2011)

Assessing the level of knowledge among nurses regarding burn patient management is essential for ensuring the delivery of optimal care. This evaluation encompasses various aspects, including understanding of wound care protocols, proficiency in assessing burn

severity, familiarity with therapeutic interventions, and awareness of potential complications. By gauging the knowledge base of nurses in this domain, healthcare institutions can identify areas for improvement and implement targeted education and training initiatives to enhance patient outcomes and overall quality of care.(R. Mohammed et al., 2021)

Significance

Evaluating the proficiency of nurses in burn patient management is paramount for enhancing treatment efficacy and minimizing complications. Nurses with comprehensive knowledge in this area can provide timely and appropriate interventions, ultimately improve patient outcomes and reduce morbidity and mortality rates associated with burns. Moreover, assessing nurses' expertise allows healthcare institutions to identify areas for improvement and tailor educational initiatives accordingly, fostering continuous professional development. By ensuring nurses possess the necessary skills and understanding, we can uphold standards of care, optimize resource allocation, and ultimately enhance the overall quality of burn patient management within healthcare settings.

Problem Statement

Nurses play a vital role in the management of burn patients, their level of knowledge in this specialized area remains understudied. This research seeks to address the gap in understanding by investigating the extent of nurses' knowledge regarding burn patient management, identifying potential areas of deficiency, and proposing strategies for enhancing education and training to improve patient outcomes

Objective(s)

To assess the current level of knowledge among nurses regarding burn patient management, including their understanding of burn severity assessment, wound care protocols, therapeutic interventions, and potential complications.

To identify specific areas of deficiency or gaps in nurses' knowledge related to burn patient management, with a focus on factors such as years of experience, educational background, and specialized training, in order to inform targeted educational interventions and professional development initiatives.

Research Question

What is the extent of nurses' knowledge regarding burn patient management, including their proficiency in burn severity assessment, wound care protocols, therapeutic interventions, and recognition of potential complications?

Operational Definitions

Knowledge facts, information, and skills acquired through experience or education; the theoretical or practical understanding of a subject.

Burn patients A burn is an injury to the skin or other organic tissues primarily caused by heat or due to radiation, radioactivity, electricity, friction or contact with chemicals. Thermal (heat) burns occur when some or all the cells in the skin or other tissues are destroyed by: hot liquids (scalds) hot solids (contact burns)

Wound care protocols it is an invasive procedure that is used aseptic techniques / sterilized for wound care protocols called wound care as per standard guide lines.

Therapeutic interventions Therapeutic intervention can take several forms and applies in a variety of settings. In the context of psychology, the term refers to actions or practices that improve the psychological, social or emotional wellbeing of another person OR aim to promote physical and emotional healthy, manage pain and present complication.

Summary of the Literature Review

Pub Med, ERIC, Pak Medi net, and Google Scholar were systematically searched. The relevant articles were analyzed. Four major themes were identified namely emotional engagement (ownership, motivation, sense of security), cognitive engagement (critical thinking, mastering complex skills), physical engagement (leadership skills) and educational reforms. These are censoriously evaluated.

Finding Different of Literature Review

Previous research as highly important of knowledge regarding burn patient's management to assess nurse knowledge and evaluate than practice prevention of infection among burn patients Burn Injury behold one of the most devastating injuries among people of all age and one of thirty leading cause worldwide lack of life year due to premature mortality. infection prevention and control is critical component of patient's safety owing to failure to use aseptic techniques during burn wound care. Burn is public health problems the aseptic technique play role to reduce and infection and case for patients after burn help quickly recover and maintain or change the condition. Burn has always been the consider one of the most destructive injuries causing major economic physiological impact. The nurse plays important roles in the overall management of a burn patient.in a cross sectional study a total of 37 nurses with different education level and experience in nursing were included. (S. A. Mohammed, 2016)The study revealed the most of the nurse has presented correct answers burn management of a patient.

The study revealed that most of the nurse have correct answer on burn management patients specific group of burn patients are distinctive and demand extra precautions such as patient with large burn Injury greater than 25% to 30% TBSA and those identified with multi resistant organisms (MDR) the patient should be placed isolated cabins or other enclosed area to ensure physical separation because there contaminated wounds become a huge source of transmission of organisms by spreading them in the surrounding environment . surrounding environment can be source of resistant organisms for prohibited items should not have allowed in burn units such as flowers and pets.(R. Mohammed et al., 2021) The depth of burn wound or it healing potential or the most important determinants of the therapeutic management and of the residual morbidity or scamming burn surgeons divide burn into superficial which heal by rapid re epithelization with minimal scarring and deep burns requiring surgical therapy. These techniques to measure the depth of a burn wound accurate in only 60% to 75% of the cases.

Along with the extent of burn and the age of the patient, the depth of a burn is a primary prognostic indicator of mortality following thermal injury burn depth is also the primary determinant of the patient long term appearance and function. Prognostic indicators of burns observed that treatment decisions are based on a prognosis of wound out come not the diagnosis of burn injure depth. although bedside clinical evaluation remains the most widespread and least expensive method for depth diagnosis, it is accurate only about 2 / 3 of the time The study core focus lies in examining the unique handle and encounter by nursing student during their clinical rotation it aims to delve into how student perceive and manage their responsibility associated with the caring for patients in specialized unit emphasizing the stressors the encounter the necessity for specific skill the process of adaptation and the evaluation of attitudes research methods the study uncovers the intricate emotion students face, the strategies the employee to cope and change in the perspective on burn care .(Dogra, 2004)

In order to provide recommendations for nursing practice in these area, the study sought to evaluate nurses knowledge and behavior related infection prevention in burn

patients .the majority of nurses acquired information from practice rather than of official education program and it was discovered and the generally possessed poor level of knowledge and practice linked to infection control .to increase infection prevention in burn unit, enhanced training session were suggested along with the creation of clinical guidelines and protocols unique to the unit .(Cameron et al., 2010)

Summary of the Literature Review

This literature review aimed to investigate the level of knowledge among nurses regarding burn patient management and identify areas for improvement. A systematic search of PubMed, ERIC, Pak Medi net, and Google Scholar yielded relevant articles that were analyzed and categorized into four themes: emotional engagement, cognitive engagement, physical engagement, and educational reforms.

Previous research highlighted the importance of knowledge in managing burn patients, particularly in preventing infections. Burn injuries are a significant public health concern, and nurses play a crucial role in patient management. Studies showed that nurses have varying levels of knowledge and practice in burn care, with most acquiring information through practice rather than formal education programs.

The review identified gaps in nurse knowledge and practice, particularly in infection prevention and control. Recommendations for enhanced training sessions, clinical guidelines, and protocols specific to burn units were suggested to improve patient care. Overall, this literature review emphasizes the need for ongoing education and training for nurses to enhance their knowledge and skills in managing burn patients effectively.

Methodology

Introduction

This chapter presents research methods applied in the study. The chapter begins with an introduction of the study, Philosophical positioning, Material and methods, Framework for analysis, Data analysis, Validation strategies Ethical rigor.

Study Design

The study design is Descriptive Cross-sectional study.

Study Setting

The purpose of the study where be made clear to all the participants. The three tertiary hospitals of Peshawar Burn Center, MTI HMC, MTIKTH were included in it.

Study Duration

This is a short duration study. The study was being carried out for six months only

Sample Size

As through open epi calculator the sample size is 305 at the rate of 95% of confidence level.

Sampling Technique

Convenient sampling technique will be used for the sampling.

Sample Selection

Sample will be selected on the basis of the following inclusion criteria and exclusion criteria.

Inclusion Criteria

All the RNOs who are RN, BSN, Post RN, MSN

They have at least 2 years' experience
They are willingly for the consent

Exclusion Criteria
All the other staff who are not RNOs, RN, BSN, Post RN, MSN
Those who have less than 2 years' experience
Those who are not willingly for the consent

Data Collection:
Develop a structured questionnaire based on existing literature and guidelines on burn patient management. Train a team of data collectors (e.g., nursing students or research assistants) on the study's objectives, questionnaire administration, and ethical considerations.
Distribution of Questionnaires: Distribute the questionnaires to the selected nurses during their shifts, ensuring minimal disruption to their duties.
Collection of Completed Questionnaires: Arrange for the collection of completed questionnaires within a specified time frame (e.g., one week).

Data analysis
The data was analyzed on SPSS

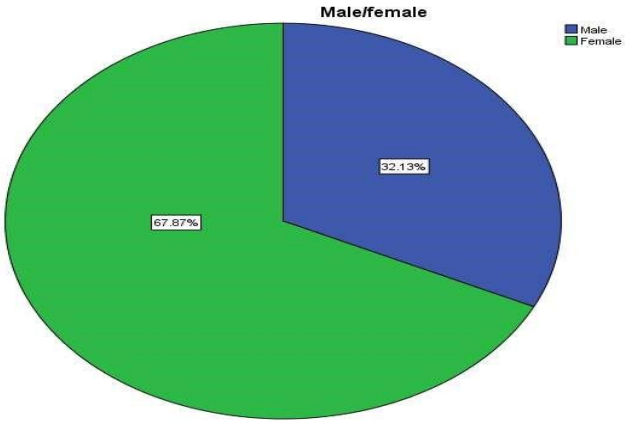
Result
In the chapter the research was document all relevant result of the study it was being display in graphs and tables forms for easily representing.

Table :1 Age of the study participants

Age in year group wise		Frequency	Percent
Valid	18-23	45	14.8
24-29		173	56.7
30-35		70	23.0
36-41		12	3.9
More than 42		5	1.6
Total		305	100.0

The above table showing age distribution that the majority of respondents (56.7%) are in the 24-29-year group, followed by 14.8% in the 18-23 group. The 30-35 group comprises 23.0%, while only a small percentage is represented in the 36-41 (3.9%) and over 42 (1.6%) age categories. In total, there are 305 respondents.

Graph No1. Gender of the study participants



The above graph Figure showing Gender distribution within the sample of 305 respondents reveals that 32.1% are male, totaling 98 respondents, while females comprise 67.9% with 207 respondents. This illustrates a significantly higher representation of females in the sample

Table no 2: Place of Job of the study participants

Place of Job of the study participants		Frequency	Percent
Valid	HMC	140	45.9
KTH		110	36.1
burn Center		55	18.0
Total		305	100.0

The table no 2 showing data on the place of employment for study participants indicates that 45.9% work at HMC (140 individuals), while 36.1% are employed at KTH (110 individuals). Additionally, 18.0% work at a burn center (55 individuals). This distribution highlights a significant concentration of respondents at HMC

Table no 3 Level of education of the study participants

Level of education		Frequency	Percent
Valid	Diploma in Nursing	26	8.5
BSN		109	35.7
Post RN BSN		159	52.1
MSN		6	2.0
Other		5	1.6
Total		305	100.0

The above no 3 showing education level of the respondents indicates that the majority hold a Post RN BSN, accounting for 52.1% (159 respondents). This is followed by BSN graduates at 35.7% (109 respondents), while those with a Diploma in Nursing represent 8.5% (26 respondents). A small percentage hold an MSN (2.0%, 6 respondents) or fall under the "Other" category (1.6%, 5 respondents).

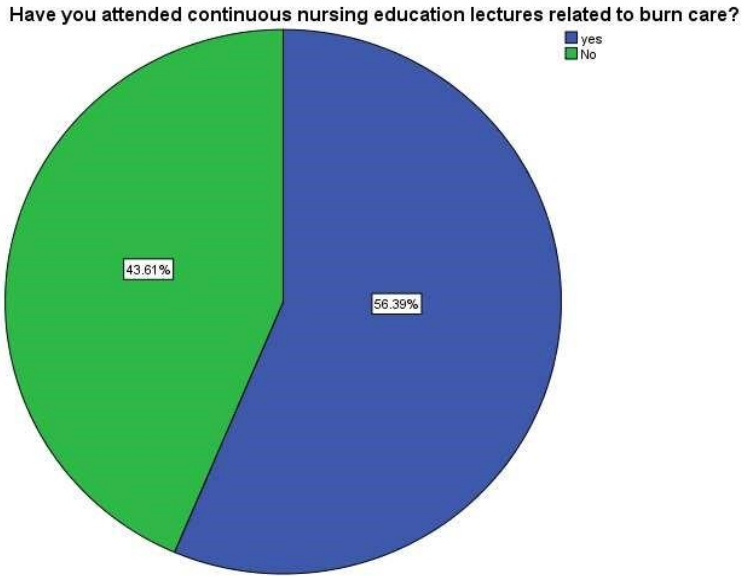
Table no 4 Have you participated in a training course specifically focused on burn

Item		Frequency	Percent
Valid	Yes	165	54.1
	No	140	45.9

Total	305	100.0

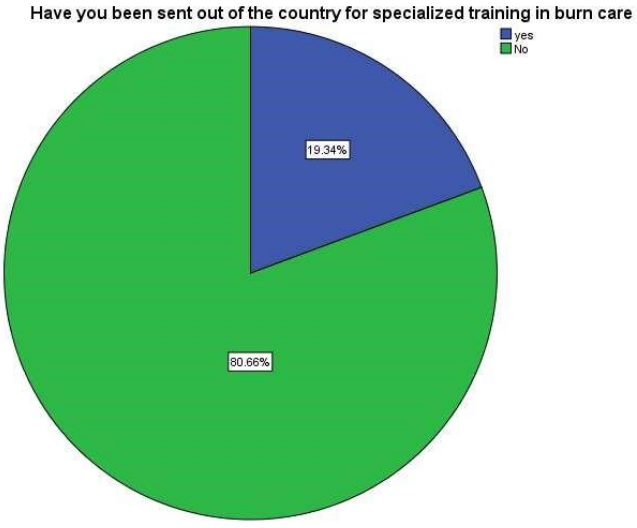
The table no 4 reveals that 54.1% of respondents have received specific training in burn care, indicating a considerable level of preparedness. Conversely, 45.9% have not undergone such training, highlighting an area for potential improvement in expertise within the surveyed population.

Graph no 2 Have you attended continuous nursing education lectures related to burn care



The graph / figure no 2 showing results indicate that 56.4% of respondents (172 individuals) have attended continuous nursing education lectures related to burn care, while 43.6% (133 individuals) have not. This suggests a strong interest in ongoing education within the field, contributing to enhanced knowledge and skills in burn care.

Graph no 3 Have you sent out of the country for specialized training in burn care



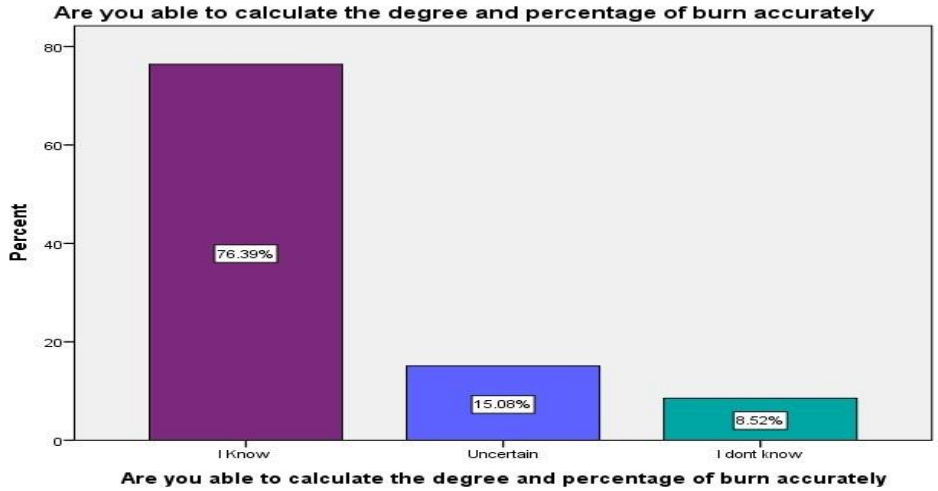
The graph no 3 showing data tells that 19.3% of respondents have received specialized burn care training outside their country, while a significant 80.7% have not. This highlights a relatively small proportion of individuals with international training in burn care

Table no 5: Can you assess the level of pain experienced by burn patients easily

Item		Frequency	Percent
Valid	yes	228	74.8
	No	77	25.2
	Total	305	100.0

The table no 5 showing findings that 74.8% of respondents (228 individuals) feel confident in assessing the level of pain experienced by burn patients, whereas 25.2% (77 individuals) do not. This suggests a strong sense of capability among the majority regarding pain assessment in burn care.

Graph/figure no 4: Are you able to calculate the degree and percentage of burn accurately



The graph/figure no 4 showing results indicate that 74.1% of respondents (226 individuals) believe they can accurately calculate the degree and percentage of burns, while 25.6% (78 individuals) feel they cannot. This reflects a high level of confidence in this critical skill among the majority of respondents. Note that there appears to be a minor discrepancy in the total percentages, as they sum to 99.7% instead of 100%.

Table no 06: Can you measure vital signs from different sites of the body accurately

Item		Frequency	Percent
Valid	I Know	285	93.4
	Uncertain	18	5.9
	I don't know	2	.7
	Total	305	100.0

The table no 6 data showing that a significant 93.4% of respondents (285 individuals) feel confident in their ability to measure vital signs accurately from different sites of the body. Meanwhile, 5.9% (18 individuals) are uncertain, and 0.7% (2 individuals) do not know. This indicates a strong proficiency in vital sign measurement among the majority of respondents

Table No 07: Do you understand the necessity of nursing documentation in burn care

Item		Frequency	Percent
Valid	I Know	239	78.4
	Uncertain	48	15.7
	I don't know	18	5.9
	Total	305	100.0

The table no 7 showing results that indicate 78.4% of respondents (239 individuals) understand the necessity of nursing documentation in burn care. Meanwhile, 15.7% (48 individuals) are uncertain, and 5.9% (18 individuals) do not know. This suggests a strong awareness of the importance of documentation among most respondents

Table no 8: Do you recognize the importance of checking the patient's weight daily

Item		Frequency	Percent
Valid	I Know	236	77.4
	Uncertain	53	17.4
	I don't know	16	5.2
	Total	305	100.0

The table no 8 data showing that 77.4% of respondents (236 individuals) recognize the importance of checking a patient's weight daily. In contrast, 17.4% (53 individuals) are uncertain, and 5.2% (16 individuals) do not know. This reflects a strong understanding of the significance of daily weight monitoring among the majority of respondents.

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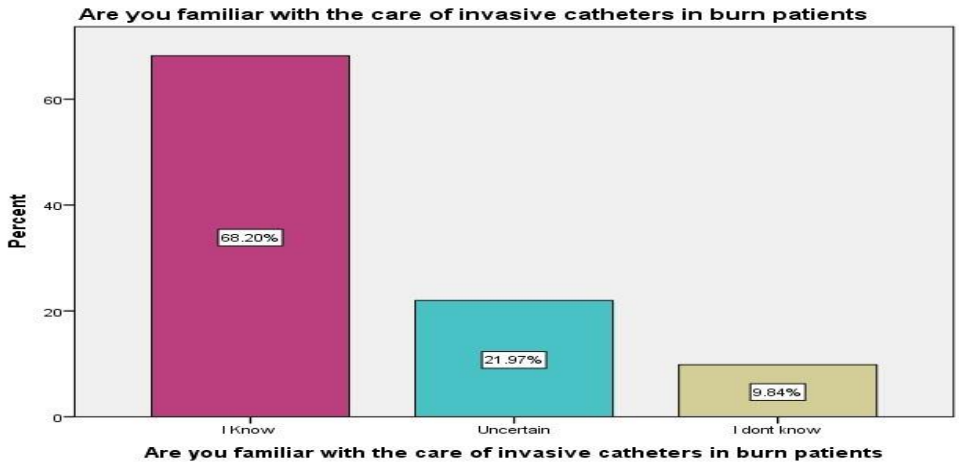
Table no 09: Can you identify supportive foods for burn patients

Item		Frequency	Percent
Valid	I Know	210	68.9
	Uncertain	68	22.3
	I don't know	27	8.9
	Total	305	100.0

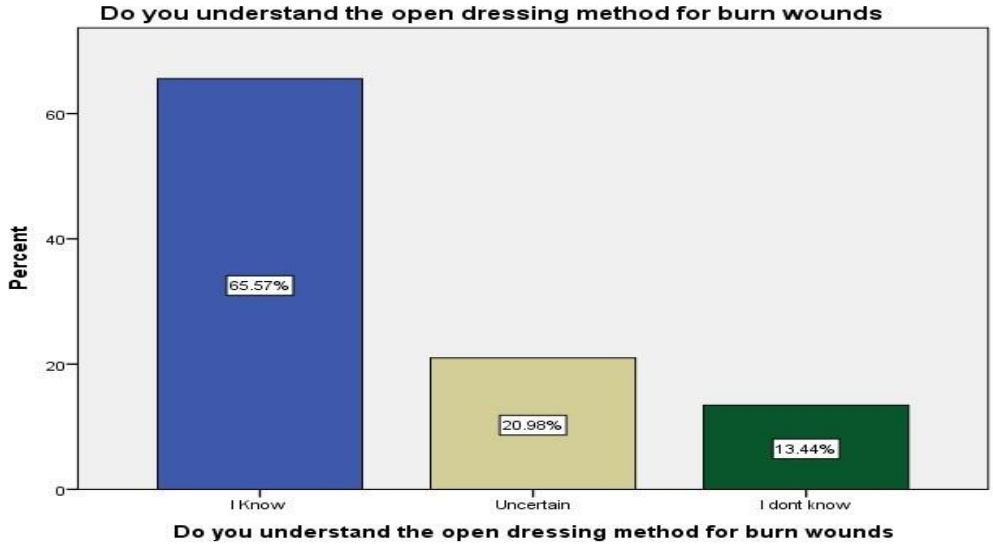
The table no 8 showing results indicate that 68.9% of respondents (210 individuals) can identify supportive foods for burn patients. Meanwhile, 22.3% (68 individuals) are uncertain, and 8.9% (27 individuals) do not know. This suggests a majority have knowledge of nutritional support for burn care, although there is a notable portion that remains uncertain.

Graph no5: Are you familiar with the care of invasive catheters in burn patients.



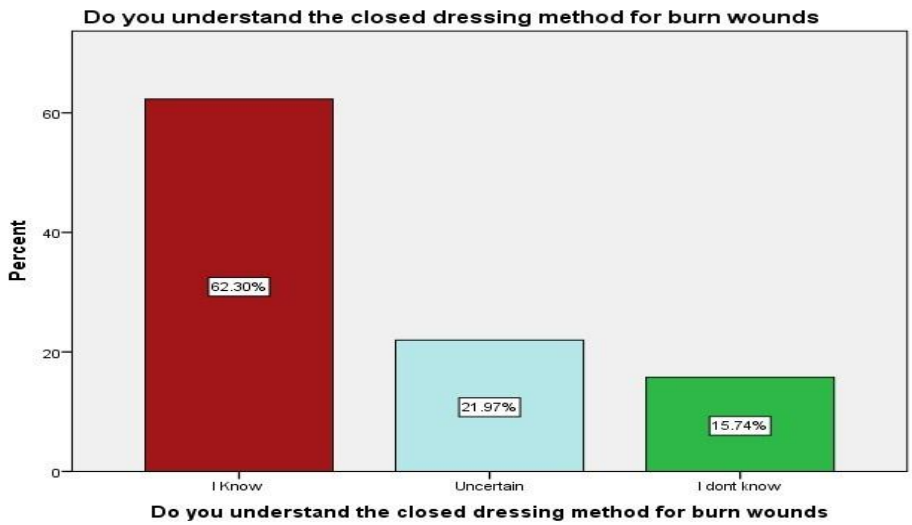
The graph no 5 showing data tells that a significant majority (68.2%) of respondents (208 out of 305) are knowledgeable about the care of invasive catheters in burn patients, reflecting strong expertise in this area. However, 22.0% (67 out of 305) are uncertain, indicating a need for further education. Additionally, 9.8% (30 out of 305) lack knowledge altogether, marking a potential area for improvement in training and resources.

Graph no 6: Do you understand the open dressing method for burn wounds.



The graph no 6 showing data indicates that 65.6% of respondents feel confident in their understanding of the open dressing method for burn wounds, reflecting a solid level of knowledge in this treatment approach. Meanwhile, 21.0% are uncertain about their knowledge, suggesting some awareness but a lack of confidence. Additionally, 13.4% of respondents do not know about the open dressing method, highlighting an area for potential educational enhancement.

Graph no 7: Do you understand the closed dressing method for burn wounds



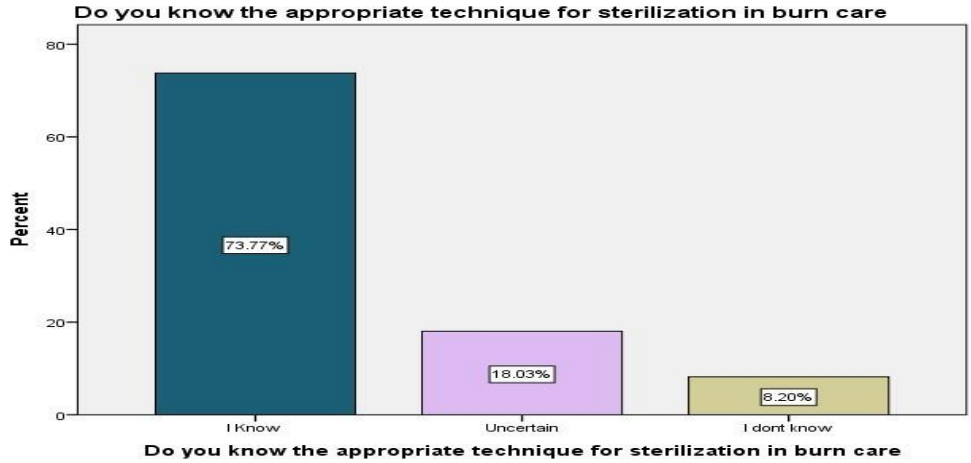
The graph no 7 showing data shows that 62.3% of respondent's express confidence in their understanding of the closed dressing method for burn wounds, indicating a good level of knowledge in this area. In contrast, 22.0% are uncertain, suggesting some familiarity but a lack of confidence. Additionally, 15.7% do not know about the closed dressing method, highlighting an opportunity for further education and training.

Table no 10: Do you understand the mixed dressing method for burn wounds

Item		Frequency	Percent
Valid	I Know	151	49.5
	Uncertain	99	32.5
	I don't know	55	18.0
	Total	305	100.0

The table no 10 showing data indicates that 49.5% of respondents (151 individuals) understand the mixed dressing method for burn wounds, reflecting a moderate level of knowledge. Meanwhile, 32.5% (99 individuals) are uncertain about their understanding, and 18.0% (55 individuals) do not know about this method. This highlights a significant area for potential improvement in education regarding mixed dressing techniques.

Graph no 8: Do you know the appropriate technique for sterilization in burn care.



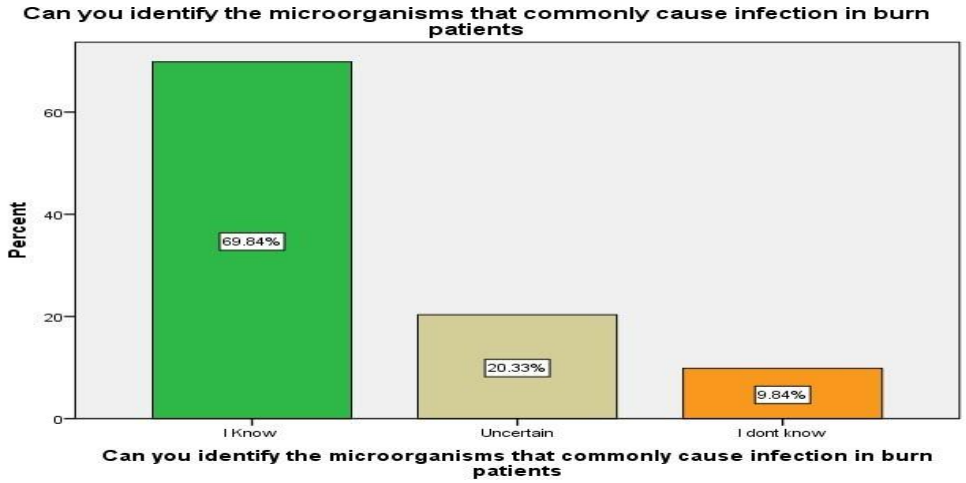
The graph no 8 showing data tells that 73.8% of respondents are confident in their understanding of the appropriate technique for sterilization in burn care, indicating a strong level of knowledge in this critical area. However, 18.0% express uncertainty about their knowledge, suggesting some familiarity but a lack of confidence. Additionally, 8.2% do not know the appropriate sterilization techniques, highlighting a potential area for further education and training

Table no 11: Do you understand the importance of health education for burn patients and their families

Item		Frequency	Percent
Valid	I Know	245	80.3
	Uncertain	39	12.8
	I don't know	21	6.9
	Total	305	100.0

The table no 10 data showing that 80.3% of respondents (245 individuals) understand the importance of health education for burn patients and their families, reflecting strong awareness of its significance. In contrast, 12.8% (39 individuals) are uncertain, and 6.9% (21 individuals) do not know about its importance. This suggests a high level of recognition regarding the role of health education in burn care.

Graph no 09: Can you identify the microorganism that commonly cause infection in burn patients



The graph no 9 data indicate that 69.8% of respondents are knowledgeable about the microorganisms that commonly cause infections in burn patients, reflecting a strong understanding in this area. However, 20.3% express uncertainty, highlighting a need for further education on specific pathogens involved in burn wound infections. Additionally, 9.8% do not know about these microorganisms, pointing to a potential gap in knowledge that could be addressed through targeted training.

Table no 11: Do you know the management protocols for burn patients, including the types of IV fluids needed

Item		Frequency	Percent
Valid	I Know	216	70.8
	Uncertain	58	19.0
	I don't know	31	10.2
	Total	305	100.0

The table no11 showing that 70.8% of respondents know the management protocols for burn patients, including the types of IV fluids needed. 19.0% are uncertain about these protocols. Meanwhile, 10.2% do not know the management protocols. In total, 305 responses were recorded.

Table no 12: Can you calculate the amount of fluid needed for fluid replacement accurately

Item		Frequency	Percent
Valid	I Know	209	68.5
	Uncertain	64	21.0
	I don't know	32	10.5
	Total	305	100.0

The table no12 showing results that 68.5% of respondents can accurately calculate the amount of fluid needed for fluid replacement. 21.0% are uncertain about this calculation. Meanwhile, 10.5% do not know how to calculate the fluid replacement. In total, 305 responses were recorded.

Table no 13: Do you understand the typical period of treatment for fluid replacement in burn patients

Item		Frequency	Percent
Valid	I Know	199	65.2
	Uncertain	66	21.6
	I don't know	40	13.1
	Total	305	100.0

The table no 13 indicate that 65.2% of respondents understand the typical period of treatment for fluid replacement in burn patients. 21.6% are uncertain about this period. Meanwhile, 13.1% do not understand the treatment period. In total, 305 responses were recorded.

Table no 14: Are you familiar with the types of antibiotics used in treating burn patients

Item		Frequency	Percent
Valid	I Know	200	65.6
	Uncertain	62	20.3
	I don't know	43	14.1
	Total	305	100.0

The table no 14 results showing that 65.6% of respondents are familiar with the types of antibiotics used in treating burn patients. 20.3% are uncertain about the types of antibiotics. Meanwhile, 14.1% do not know the types of antibiotics used. In total, 305 responses were recorded.

Table no 15: Do you understand the potential side effects of antibiotics used in burn care

Item		Frequency	Percent
Valid	I Know	185	60.7
	Uncertain	68	22.3
	I don't know	52	17.0
	Total	305	100.0

The table no 15 results indicate that 60.7% of respondents understand the potential side effects of antibiotics used in burn care. 22.3% are uncertain about these side effects. Meanwhile, 17.0% do not understand the potential side effects. In total, 305 responses were recorded

Table no 16: Do you know the preferable method of antibiotic administration for burn patients

Item		Frequency	Percent
Valid	I Know	196	64.3
	Uncertain	65	21.3
	I don't know	44	14.4
	Total	305	100.0

The table no 16 results show that 64.3% of respondents know the preferable method of antibiotic administration for burn patients. 21.3% are uncertain about the method. Meanwhile, 14.4% do not know the preferable method of administration. In total, 305 responses were recorded.

Table no 17: Are you aware of the potential side effects of analgesics used in burn care

Item		Frequency	Percent
Valid	I Know	209	68.5
	Uncertain	58	19.0
	I don't know	38	12.5
	Total	305	100.0

The table no 17 results indicate that 68.5% of respondents are aware of the potential side effects of analgesics used in burn care. 19.0% are uncertain about these side effects. Meanwhile, 12.5% do not know the potential side effects. In total, 305 responses were recorded

Table no 18: Do you know the preferable method of analgesic administration for burn patients

Item		Frequency	Percent
Valid	I Know	225	73.8
	Uncertain	56	18.4
	I don't know	24	7.9
	Total	305	100.0

The table no 18 results show that 73.8% of respondents know the preferable method of analgesic administration for burn patients. 18.4% are uncertain about the method. Meanwhile, 7.9% do not know the preferable method of administration. In total, 305 responses were recorded.

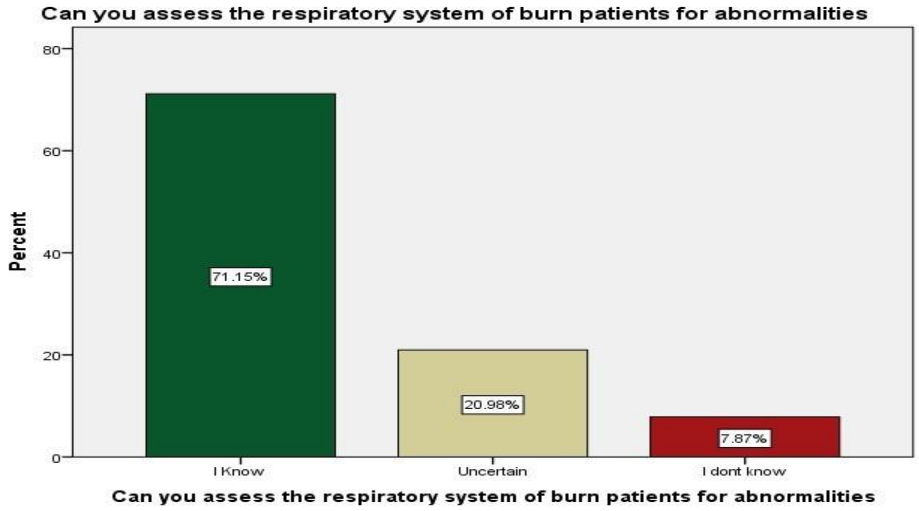
Table no 19: Are you able to provide psychological support to burn patients

Item		Frequency	Percent
Valid	I Know	268	87.9
	Uncertain	25	8.2
	I don't know	12	3.9

Total	305	100.0

The table no 19 results indicate that 87.9% of respondents are able to provide psychological support to burn patients. 8.2% are uncertain about their ability to provide support. Meanwhile, 3.9% do not know how to provide psychological support. In total, 305 responses were record

Graph no 10: Can you asses the respirator system of burn patients for abnormalities.



The graph/ figure results tell that 71.1% of respondents (217 individuals) are confident in their ability to assess the respiratory system of burn patients for abnormalities. Conversely, 21.0% (64 respondents) express uncertainty regarding this skill, while 7.9% (24 individuals) acknowledge that they do not know how to perform this assessment.

Summary of The Result

The study demonstrates an in-depth analysis of various aspects related to burn care, including demographic information, educational backgrounds, training, and knowledge levels among healthcare professionals. Here's a brief summary based on the data presented:

Age Distribution: Majority of respondents (56.7%) are in the 24-29 age group, with smaller percentages in other age categories.

Gender Distribution: 32.1% of respondents are male, whereas 67.9% are female.

Place of Employment: 45.9% work at HMC, 36.1% at KTH, and 18.0% at a burn center.

Education Level: Post RN BSN holders form the majority (52.1%), followed by BSN (35.7%) and Diploma in Nursing (8.5%) holders.

Training on Burn Care: 54.1% of respondents have received specific training in burn care.

Continuous Education: 56.4% have attended nursing education lectures related to burn care.

International Training: 19.3% have received specialized burn care training outside their country.
Competence in Pain Assessment: 74.8% feel confident in assessing pain levels of burn patients.
Competence in Burn Percentage Calculation: 74.1% believe they can accurately calculate burn degree and percentage.
Vital Sign Measurement: 93.4% feel confident in measuring vital signs accurately at various body sites.
Awareness of Nursing Documentation Necessity: 78.4% understand the necessity of nursing documentation in burn care.
Weight Monitoring: 77.4% recognize the importance of daily weight monitoring for patients.
Knowledge of Supportive Foods: 68.9% can identify supportive foods for burn patients.
Expertise in Invasive Catheter Care: 68.2% are knowledgeable about caring for invasive catheters in burn patients.
Understanding of Dressing Methods: Varied levels of understanding in open, closed, and mixed dressing methods.
Knowledge of Antibiotics and Analgesics: Awareness levels of types, side effects, and administration methods.
Psychological Support Provision: 87.9% can provide psychological support to burn patients.
This summary provides an understanding of the key findings related to the demographics, education, training, and expertise levels of the healthcare professionals surveyed in the study.
Summary of Correlation Analysis in Burn Care Knowledge
The correlation analysis conducted on burn care knowledge reveals several significant relationships among different aspects of care. The data, gathered from 305 participants, highlights how various dimensions of burn care expertise are interconnected.
Dressing Methods and Sterilization Techniques:
There is a strong positive correlation between knowledge of the mixed dressing method and the open dressing method for burn wounds ($r = .510$). This suggests that understanding one method is closely related to understanding the other.
Knowledge of the mixed dressing method also shows a significant correlation with appropriate sterilization techniques ($r = .492$). Similarly, understanding the open dressing method correlates with knowledge of sterilization practices ($r = .377$). These findings indicate that familiarity with dressing methods is associated with a sound understanding of sterilization procedures.

Health Education and Infection Management:
Understanding the importance of health education for burn patients and their families is positively correlated with the ability to identify microorganisms causing infections ($r = .358$) and knowledge of management protocols ($r = .309$). This underscores that those who recognize the value of health education are more likely to have comprehensive knowledge about infection management and burn care protocols.
Microorganisms and Management Protocols:
There is a significant correlation between identifying microorganisms causing infections and knowing the management protocols for burn patients, including
IV fluids ($r = .381$). Additionally, knowledge of microorganisms correlates with understanding appropriate sterilization techniques ($r = .350$). These relationships highlight the connection between knowing potential pathogens and managing burn care effectively.

Overall Integration of Knowledge:
Knowledge of management protocols, including IV fluid types (r = .323), is positively correlated with other aspects of burn care, including dressing methods and sterilization techniques. This comprehensive knowledge integration suggests that expertise in one area often accompanies proficiency in related areas.
In conclusion, the correlation analysis demonstrates that various components of burn care knowledge are interrelated. Improvements in one area, such as understanding dressing methods or sterilization techniques, are likely associated with better knowledge in related areas, such as health education and infection management. This interconnectedness emphasizes the importance of a holistic approach in burn care training and education, ensuring that practitioners possess a well-rounded understanding of all critical aspects of care.

Discussion
The majority of nurses who took part in the current study provided accurate answers to the bulk of the questions about the care of burn patients. The majority of nurses (51.4%) agreed that it was necessary to check for edema, take peripheral and central pulses, and check blood pressure. Furthermore, a small percentage of nurses (62.2%) acknowledged that shock is a frequent reason for death in the emergent stage for patients with severe injuries. it must be considered that nurses have a key role in the overall management of burn patients. They ought to possess the necessary and thorough training to handle emergency burn cases. Additionally, it is necessary to learn that managing a burn patient entails more than just medical treatment; a psychological evaluation of the victim and their family is crucial since the best care for burn patients requires a uniquely interdisciplinary approach. Burns are a public health concern. The aseptic approach helps patients recover more rapidly and maintain or alter their state by reducing infection.
In order to properly examine the burn, wound and identify any early indicators of infection, the nurse must provide a clean and safe environment (smeltzer and bare, 2010). One of the main predictive factors for death after thermal damage is the depth of burn, coupled with the amount of burn and the patient's age. The main factor influencing the patient's long-term appearance and functionality is also the burn depth influencing factor for the patient's longterm look and functionality. Precise determination of the depth of the burn site is still a crucial therapeutic objective in the treatment of patients with severe burns. Depth not only determines the prognosis of the patient, but it also suggests the best course of action for a particular wound. Therefore, it is crucial to comprehend the relative effectiveness of different techniques for assessing burn depth. Nonetheless, the research notes that nurses' burn case management expertise is insufficient. Meschial and de Oliveira, for instance, found that just
22.4% of the sample population of nurses knew enough about how to care for burn victims in Brazil.
As a result, health facilities need to use the right tactics to increase the awareness of this crucial medical staff.
The data revealed that nurses in the research locations are not well-versed in infection control practices for burn patients. Nonetheless, they learned by experience, and in-service education programmed must advance to better train nurses for infection prevention. To avoid cross-contamination, it is advised that patients with more severe burn injuries be segregated in individual rooms. It was shown that the best method for preventing crossinfection is laminar airflow.
The majority of burn injuries occur in younger children up to preschool age. This is associated with a high level of physical activity brought on by this stage of life's intense

psychomotor development, as well as a lack of self-criticism over one's behavior and an incapacity to anticipate possible dangers. Most injuries happen at home when hot liquid-filled plates are pulled down. Boys predominate this group somewhat, while Moehrlen et al. claim that this domination grows with maturity. However, Alnababtah and Khan think that residing in social housing puts a person at higher risk of burns. Verey et al. state that most injuries, especially those that are significant, happen in the afternoon. hours. The authors of this investigation noticed a similar trend. Kemp et al. also stress that misuse may be linked to up to 25.0% of burns. These researchers offer a test that can be used to determine the probability of deliberate damage. thorough understanding of the makeup of populations affected by burn injuries Considering the most common injury scenarios or plans is essential and beneficial in organizing and executing preventative measures lowering the incidence of pediatrics burns. Given how common burns are in children, it would seem prudent to plan preventative measures against thermal trauma. Such measures ought to take into consideration the need to get rid of things or habits that raise the chance of child burns, particularly in the home, where kids get burned the most frequently. The components of first aid for the burned youngster should be discussed concurrently with such efforts. Regretfully, there isn't much discussion of burns in the media.

Assessing the level of knowledge of nurses regarding burn patient management is crucial to improving patient outcomes and ensuring high-quality care. During this assessment, their knowledge of burn classification, first aid procedures, wound care methods, pain control, infection prevention, and rehabilitation procedures are usually measured. Nurse staff members' knowledge gaps and training needs can be found by researchers using selfstructured questionnaire and standardized assessment instruments. The results can direct the creation of focused educational initiatives and guidelines, which will eventually improve nurses' proficiency in caring for burn patients and lower the rates of morbidity and death related to burn injuries.

Overall, the study demonstrates the commitment and skill of burn treatment specialists. By addressing the identified knowledge gaps through targeted educational interventions, burn centers can ensure optimal patient care and outcomes.

The comprehensive analysis of burn care knowledge among healthcare professionals highlights several key factors that impact the quality of care provided to burn patients. The data provides insights into the demographics, educational backgrounds, training, and knowledge levels, offering a holistic view of current practices and areas for improvement in burn care

Demographic and Educational Background:

The majority of respondents are in the younger age group (24-29 years), indicating a relatively new and potentially dynamic workforce in burn care. The higher percentage of female respondents reflects gender distribution trends in nursing.

A significant proportion of respondents hold a Post RN BSN degree (52.1%), followed by BSN (35.7%), suggesting a generally well-educated cohort. Despite this, 8.5% with only a diploma highlights a gap in advanced education that may impact the depth of burn care knowledge.

Training and Competence:

The majority (54.1%) have received specific training in burn care, while 56.4% have engaged in continuous education related to burn care. This continuous education is critical for staying updated with the latest practices and improving patient outcomes.

Confidence in critical skills such as pain assessment (74.8%) and burn percentage calculation (74.1%) is high. However, this confidence is less uniformly distributed

across other areas, such as understanding various dressing methods and antibiotic administration, indicating potential areas for targeted training.

Correlation Insights:

Dressing Methods and Sterilization: The strong correlation between knowledge of different dressing methods (mixed and open) and sterilization techniques (r = .510 and .492, respectively) suggests that understanding one aspect of burn care is closely related to expertise in related procedures. This highlights the importance of integrated training that covers multiple facets of burn care simultaneously.

Health Education and Infection Management: Recognizing the importance of health education correlates positively with the ability to identify microorganisms (r = .358) and understanding management protocols (r = .309). This underscores the role of comprehensive education in improving overall burn care knowledge and infection management.

Microorganisms and Management Protocols: Knowledge about common microorganisms causing infections shows a significant relationship with understanding management protocols and sterilization techniques (r = .381 and .350, respectively). This correlation emphasizes the importance of understanding pathogens in effectively managing and preventing infections in burn patients.

Overall Integration: The positive correlation between management protocols, including IV fluids (r = .323), and other aspects of burn care demonstrates that expertise in one area often accompanies proficiency in related areas. This suggests that a holistic approach to burn care training enhances overall competence.

Areas for Improvement:

The data indicates gaps in specific areas, such as understanding various dressing methods and the administration of antibiotics and analgesics. These areas, while showing moderate to strong correlations with other knowledge aspects, require focused educational interventions to enhance overall care quality.

The relatively lower percentage of international training (19.3%) could be expanded to include more global perspectives and advanced practices in burn care, contributing to a more robust understanding of complex cases. In conclusion, the study highlights the interconnected nature of burn care knowledge, demonstrating that improvements in one area often lead to better understanding in related domains. This emphasizes the need for comprehensive, integrated training programs that address multiple aspects of burn care simultaneously, ensuring that healthcare professionals are well-equipped to provide high-quality care to burn patients.

Future Directions

Future research could explore the effectiveness of specific educational strategies in improving burn care knowledge and skills. Additionally, investigating the long-term impact of training on patient outcomes would be valuable.

Summarization

The study on pediatrics burn injuries highlights several key points about nurses' knowledge and management of burn patients. The majority of nurses accurately answered questions about burn care, recognizing the importance of checking for edema, pulses, blood pressure, and acknowledging shock as a frequent cause of death in severe burn cases. However, the study also revealed that nurses' expertise in managing burn cases is insufficient, with only 22.4% of nurses in Brazil knowing enough about burn care. Nurses play a critical role in burn patient management and need thorough training

in both medical and psychological aspects of care. Infection control is essential, with aseptic techniques aiding in faster recovery.

The depth of burn wounds is a significant factor in determining prognosis and treatment, yet accurate assessment techniques are still crucial. Health facilities need to improve training and awareness among nurses. Burn injuries are most common in young children, often occurring at home due to their high activity levels and inability to foresee dangers. Boys are slightly more prone to burns, and those living in social housing are at higher risk. The study found that most burn injuries occur in the afternoon, with some linked to abuse. Preventative measures should focus on reducing burn risks, particularly at home. Assessing nurses' knowledge of burn management is vital for improving patient outcomes. This involves understanding burn classification, first aid, wound care, pain control, infection prevention, and rehabilitation. Demographics showed that most respondents were young females, with many having post-RN BSN qualifications but limited specialized burn care training.

While nurses demonstrated confidence in core burn care areas, gaps remain in understanding fluid management, antibiotic and analgesic administration, and respiratory evaluation. Targeted educational interventions are needed to address these gaps, ensuring optimal patient care and outcomes. Future research should explore effective educational strategies and the long-term impact of training on patient outcomes.

Conclusion

This study has yielded valuable insights into the strengths and weaknesses of current burn care practices. The findings paint a positive picture of a dedicated workforce equipped with a solid understanding of core burn care principles. A significant majority of respondents demonstrated confidence in crucial skills like pain assessment, burn degree calculation, and vital sign measurement. Knowledge of open and closed dressing methods for burn wounds was also widespread. Furthermore, a large proportion of respondents recognized the importance of fluid resuscitation and understood how to calculate fluid requirements for burn patients. Perhaps most importantly, a very high percentage of respondents felt comfortable providing psychological support to burn patients, highlighting a commitment to holistic patient care.

However, the study also identified areas where targeted interventions can significantly improve burn care delivery. There is a clear need to expand access to specialized burn care training programs abroad, particularly for those who haven't had this opportunity yet. Additionally, some uncertainties regarding documentation practices and specific techniques like mixed dressing methods suggest a need for reinforcement in these areas. Furthermore, knowledge gaps were identified related to the nuances of antibiotic and analgesic use, including side effects and preferred administration methods. Finally, a concerning portion of respondents expressed uncertainty regarding respiratory system assessment in burn patients. These findings highlight the importance of developing and implementing targeted educational programs to address these knowledge gaps and equip healthcare professionals with the most up-to-date knowledge and skills in all aspects of burn care.

Moving forward, research should delve deeper into the effectiveness of various educational strategies in improving burn care knowledge and skills. Studies comparing different teaching methods, such as online modules, simulation training, or hands-on workshops, could provide valuable guidance for optimizing educational interventions. Ultimately, the goal is to establish the most effective methods for empowering healthcare professionals to deliver exceptional care. Additionally, future research should explore the long-term impact of these educational programs on patient outcomes. By measuring factors like complication rates, length of hospital stays, and patient

satisfaction, researchers can establish a clear link between enhanced healthcare professional knowledge and improved patient well-being. This ongoing cycle of evaluation and improvement will ensure that burn patients continue to receive the most effective and compassionate care possible.

Limitation of the study

The study's findings may not be generalizable beyond the specific healthcare settings surveyed. Finally, the cross-sectional nature of the research limits the ability to assess changes in knowledge over time.

Recommendation

To enhance burn patient management, it's recommended to implement targeted training programs addressing identified knowledge gaps, conduct regular refresher courses, and promote continuous professional development. Additionally, incorporating practical simulations and feedback mechanisms can further improve nurses' proficiency in burn care.

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