

## Burn first aid awareness and its associated factors among medical Students in the Region College of medicine, Dawdami, Shaqra University Kingdom of Saudi Arabia

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Article Received: 27-March-2024, Revised: 17-April-2024, Accepted: 07-May-2024

### **ABSTRACT:**

In Saudi Arabia, the prevalence of burn injuries is between 100 and 518 per 100,000 people per year, with homes accounting for 72-94% of incidences. A increasing demand exists at the Region College of Medicine at Dawdami, Shaqra University, Kingdom of Saudi Arabia, to measure burn first aid awareness among medical students. The purpose of this study is to investigate the factors that influence burn first aid knowledge, hence offering significant insights for targeted educational initiatives in the region. **Method:** The study was conducted in the College of medicine, Dawdami, Shaqra University Kingdom of Saudi Arabia by employed a cross-sectional design. The data were analyzed using Statistical Package for the Social Sciences (SPSS) 28 (IBM SPSS Statistics,). There were no missing values. Parametric data were provided as means and standard deviation (SD), whereas qualitative variables were reported as numbers and percentages **Result:** The study included a varied sample of individuals, with a fair representation of gender. Notably, 39.3% were men and 60.7% were women. The age distribution shows a significant majority of individuals aged 25 to 35 years, comprising 76.2% of the cohort, with 23.8% being under the age of 25. In terms of professional experience, the majority of respondents (60.7%) claimed having less than two years of experience, followed by 38.1% with two to five years of experience. However, In terms of the proper methods for treating burn injuries, 60% of medical students correctly recognized bathing the burned area with cool water as the first step. **Conclusion:** In conclusion, medical students' showed a comprehensive understanding of all aspects of burn injuries however, regular refresher training will be needed to improve burns 1<sup>st</sup>aid knowledge among medical professionals and general population.

**Keywords:** Burns , Injuries, Kingdom of Saudi Arabia , knowledge

### **INTRODUCTION:**

Burns can lead to tissue damage, scarring, and recurring infections. Severe burns cause systemic repercussions throughout the body. Burns are a serious public health concern worldwide, accounting for around 180,000 deaths each year, the majority of which occur in low- and middle-income nations. Burns are caused by a variety of stimuli, including heat, electricity, chemicals, radiation, or friction, that harm the skin or other organic tissues. Their severity and depth dictate their classification into three levels(1). First-degree burns affect only the outer skin layer, causing redness, discomfort, and dryness. Second-degree burns penetrate the second skin layer, resulting in blisters and severe

agony. The most serious are third-degree burns, which penetrate all skin layers and appear as black, brown, or white skin with possible numbness(2, 3). This life-saving care, sometimes known as first aid, is an assessment and interventions that can be performed instantly by someone close with minimal or no medical equipment. As a result, knowing basic first aid is essential. The ultimate goal of first aid is to prevent or reverse potential injury before reaching the right medical facility(4). First aid knowledge refers to the strategies and tactics used to prevent and respond to health emergencies. It can be offered in a variety of settings, including the home, school, workplace, and recreational areas. Beyond health problems, first aid knowledge

improves social responsibility and strengthens values(5). According to a qualitative investigation, accidental injuries among children at home may be attributed to the perception that certain injuries are a natural part of child development. Minimizing factors that contribute to injuries can be achieved through educating children about potential risks and ensuring adequate supervision(6). Additionally, a separate study observed that young children from economically disadvantaged households are more vulnerable to unintentional harm. Several studies have examined burn first aid awareness and related factors among medical students, finding a lack of knowledge in the healthcare field. A systematic review identified several characteristics that influence medical science students' knowledge, including first aid training, academic year, clinical experience, economic situation, age, academic specialization, information sources, and father's career(7, 8). These investigations revealed that Saudi medical students have reasonable knowledge of burn prevention and first aid. However, general awareness of first aid for burn victims among healthcare staff was rated inadequate, coupled by an alarming prevalence of needless traditional medicine and antibiotic use.(1, 7)

This study aimed to find out the Burn First Aid Awareness and its Associated Factors among Medical Students in the Region of Riyadh" is critical since medical students play a critical role as future healthcare providers. Burns are a common and potentially serious injury that requires prompt and competent first assistance. With little research on this problem in the Riyadh area, understanding awareness levels among medical students is critical. Identifying characteristics that influence awareness, such as educational background and exposure to practical training, might help lead targeted educational interventions. Improved burn first aid knowledge among medical students not only improves individual skills, but it also benefits community health, resulting in a more resilient and prepared healthcare system.

#### **METHOD:**

The study was conducted in the College of medicine, Dawdami, Shaqra University Kingdom of Saudi Arabia by employed a cross-sectional design. The sample size was determined 100 using an Epi info 7 online with 95% confidence, resulting in a Chronbach alpha of 0.87 for

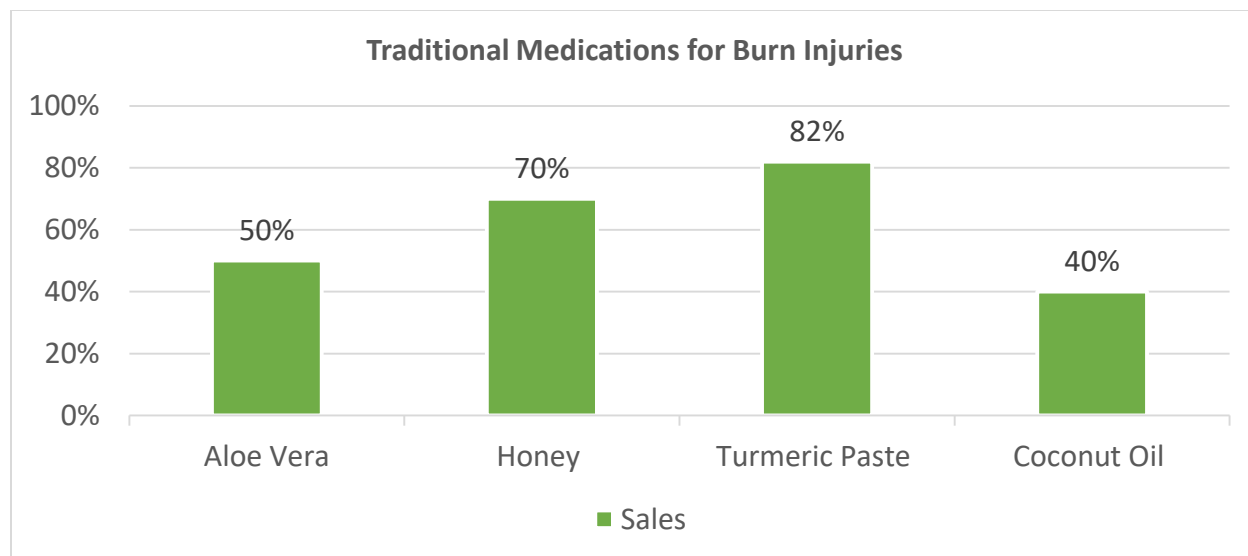
10% of participants. The data were analyzed using Statistical Package for the Social Sciences (SPSS) 28 (IBM SPSS Statistics,). There were no missing values. Parametric data were provided as means and standard deviation (SD), whereas qualitative variables were reported as numbers and percentages. The College of medicine, Dawdami, Shaqra University Kingdom of Saudi Arabia Ethics Review Board reviewed the protocol and questionnaires and provide approval. This survey he conducted during January to March 2021.

#### **RESULT:**

The study included a varied sample of individuals, with a fair representation of gender. Notably, 39.3% were men and 60.7% were women. The age distribution shows a significant majority of individuals aged 25 to 35 years, comprising 76.2% of the cohort, with 23.8% being under the age of 25. In terms of professional experience, the majority of respondents (60.7%) claimed having less than two years of experience, followed by 38.1% with two to five years of experience. Surprisingly, only 1.2% of respondents reported having 2 years of experience. In terms of marital status, the majority of participants (57.1%) were single, followed by married (41.7%) and a small percentage classified as widowed (1.2%). These demographic facts lay the groundwork for understanding the makeup.

The table 1 provides a comprehensive overview of public knowledge and perceptions related to burn injuries, covering various aspects of first aid and management practices. The chart below provides a complete summary of medical students' knowledge and practices on many aspects of burn injuries, including first aid procedures, traditional medicines, and safety precautions. The survey assesses participants' understanding and application of burn management procedures.

In terms of the proper methods for treating burn injuries, 60% of medical students correctly recognized bathing the burned area with cool water as the first step. Figure 1. Traditional remedies were explored in varied ratios, including Aloe Vera (50%), Honey (70%), Turmeric Paste (82%), and Coconut Oil (40%). Fire extinguishing methods were investigated, and 60% of medical students correctly identified covering a pot of oil that had caught fire with a cloth.



**Figure 1 Traditional medicines, and safety precautions**

The importance of preventing infection by covering the burned area before going to the hospital received 70% agreement. Medical students displayed complete awareness (100%) that burns might result in lasting harm. However, 60% of respondents agreed that burn injuries can cause mental illnesses. First aid and management methods were evaluated, with 81% agreeing that not picking blisters and using first aid medicine at home would result in a better outcome. Water application for 10-15 minutes resulted in a 31% reduced agreement rate. Fire extinguishing methods were investigated, and 60% of medical students correctly identified covering a pot of oil that had caught fire with

a cloth. The importance of preventing infection by covering the burned area before going to the hospital received 70% agreement. Medical students displayed complete awareness (100%) that burns might result in lasting harm. However, 60% of respondents agreed that burn injuries can cause mental illnesses. First aid and management methods were evaluated, with 81% agreeing that not picking blisters and using first aid medicine at home would result in a better outcome. Water application for 10-15 minutes resulted in a 31% reduced agreement rate. Concerning fire-related safety precautions, medical students exhibited a high level of awareness (91%).

**Table 1: Knowledge assessment of 1<sup>st</sup> aid of burn among medical students**

Knowledge assessment	Variable	Percentage of Agreement
1. Correct Steps for Burn Injuries	Washing the burned area with cool water is the first correct step.	60%
2. Traditional Medications for Burn Injuries	Aloe Vera	50%
	Honey	70%
	Turmeric Paste	82%
	Coconut Oil	40%
3. Fire Extinguishing Techniques	How to extinguish a pot of oil that has caught fire?	60%
4. Preventing Infection and Covering Burned Area	Covering the burned area before heading to the hospital can decrease the risk of infection.	70%

5. Permanent Injuries and Mental Disorders	Burns can lead to permanent injuries.	100%
	Burn injuries can lead to mental disorders.	60%
6. First Aid and Management Practices	Picking blisters is an incorrect action.	81%
	Applying first aid medicine at home on a burned area leads to a better outcome.	81%
	In case of burn injury, apply water for 10-15 minutes.	31%
7. Fire-related Safety Measures	In case of burn injury, if your clothes were on fire, you should roll on the ground.	91%
8. Antibiotics and Electrical Burns	In case of burn injury, it is beneficial to use antibiotics for management (disagree).	83%
9. Electric burn 1st aid	In case of electrical burn injury, one should not touch the injured person if still in contact with the electrical current.	92%
	In case of electrical burn injury, the first action is to turn off the source of electricity if possible.	70%

## **DISCUSSION:**

Several studies have been undertaken to evaluate burn first aid knowledge and awareness among medical students and healthcare staff. A study in Saudi Arabia indicated that medical students had reasonable knowledge of burn prevention and first aid procedures. However, the degree of awareness among healthcare personnel was low, indicating the necessity for an effective instructional program. Burn injuries cause an estimated 195,000 fatalities worldwide each year(8). In Saudi Arabia, the prevalence of burn injuries is between 100 and 518 per 100,000 people per year, with homes accounting for 72-94% of incidences(9, 10).A systematic evaluation of 5046 medical science students from 13 research found that their understanding of burn first aid

was moderate(11). Factors such as first aid training, academic year, clinical experience, and economic status influenced this knowledge. These studies emphasize the need of providing medical students and healthcare personnel with comprehensive burn first aid education and training. Furthermore, the degree of education, source of information, and involvement in first aid training courses were discovered to influence the understanding of burn first aid among individuals in various situations. Healthcare professionals lack awareness of first aid for burn victims, highlighting the necessity for comprehensive teaching initiatives. These variables emphasize the necessity of targeted educational interventions and correct information transmission in improving burn first aid knowledge among medical

students and healthcare personnel in these regions. The difficulties to developing good burn first aid education programs among medical students in India, Pakistan, and Africa are numerous, posing a challenge to complete burn injury management. One key hindrance is the persistence of traditional practices and a lack of awareness in the community about proper first-aid techniques, which can lead to the adoption of ineffective or hazardous treatments. Limited access to specialized care in low-income nations, such as India, Pakistan, Bangladesh (12) and many African regions (13), complicates the management of burn injuries. The lack of sufficient staff and technologies in healthcare institutions impedes timely and appropriate medical care. Furthermore, studies reveal poor training and awareness of burn first aid among medical students and healthcare personnel in these countries, underlining the urgent need for increased/Socioeconomic factors also contribute to the issues, since variations in economic status, and educational resources can all have an impact on medical students' knowledge of burn first aid (11). To overcome these barriers, targeted educational initiatives are required. Raising community understanding of proper first-aid techniques and debunking myths about traditional treatments is critical. Access to expert treatment, especially in low-income areas, is critical for successful burn injury therapy. Similar obstacles may exist in Saudi Arabia, and the country should establish specific educational programs to address these issues (14). Focusing on increasing knowledge among medical students, healthcare personnel, and the general public, as well as conducting awareness campaigns, can all help to enhance burn first aid procedures. Furthermore, investing in specialized burn care facilities and training healthcare workers in the most recent breakthroughs in burn injury management would be critical to assuring improved results for burn victims in Saudi Arabia.

### **CONCLUSION:**

In conclusion, the table demonstrates medical students' deep awareness of numerous aspects of burn injuries. While there is widespread understanding of certain critical processes, such as bathing the burned area with cool water and the importance of fire-related safety precautions, there are differences in the identification of traditional drugs and first aid techniques. The overwhelming recognition of the potential long-term consequences of burn injuries highlights the importance of this health concern among medical students. The data also highlights areas for improvement, such as emphasizing the necessity of prolonged water application for burns.

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