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Assessing Knowledge and Awareness of Dealing With Cut Wounds, the Use of Home Remedies, and Emergency Visits in the Makkah Region, Kingdom of Saudi Arabia

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Abdullah O. Allehyani [1, 2, 3, 4], Badr Alsahafi [5], Fatmah Rednah [6], Ruyuf Y. Altowairqi [7], Fay Salawati [6], Abdelelah Abualfraj [1, 2, 3, 4]

1. Emergency Medicine Department, Ministry of the National Guard - Health Affairs, Jeddah, SAU 2. Emergency Medicine Department, King Abdullah International Medical Research Center, Jeddah, SAU 3. Emergency Medicine Department, King Saud bin Abdulaziz University for Health Sciences, Jeddah, SAU 4. Emergency Medicine Department, King Abdulaziz Medical City, Jeddah, SAU 5. Emergency Medicine Department, King Fahd Armed Forces Hospital, Jeddah, SAU 6. Emergency Medicine Department, Saudi German Hospital, Makkah, SAU 7. Obstetrics and Gynaecology Department, Security Forces Hospital, Makkah, SAU

Corresponding author: Abdullah O. Allehyani, abdullahallehyani3417@gmail.com

Abstract

Background: Traumatic cut wounds are among the most frequently encountered injuries worldwide, yet public knowledge of safe wound management remains limited, and reliance on non-evidence-based home remedies may increase the risk of complications. In Saudi Arabia, community wound care knowledge is insufficiently explored, particularly in the Makkah region, whose diverse population may influence cultural practices and health-seeking behaviors. This study aimed to assess the awareness, knowledge, and practices related to traumatic cut wound management, beliefs about home remedies, and anticipated emergency department (ED) use among residents of the Makkah region.

Methodology: A descriptive cross-sectional study was conducted using an online, self-administered, author-developed questionnaire distributed through social media platforms via convenience sampling. A total of 414 participants aged 15 years and above residing in the Makkah region were included. A 20-item knowledge score (Cronbach's α = 0.907) was categorized as poor, moderate, or good. Data were analyzed using IBM SPSS Statistics version 30.0 (IBM Corp., Armonk, NY); associations were assessed using Pearson's chi-square test, with $p<0.05$ considered significant.

Results: Women constituted 58.9% of participants, and 31.6% had attended a first aid course. Most participants recognized the importance of handwashing before touching a wound (62.8%) and the use of sterile tools (64.0%); however, 45.2% believed that tightly bandaging a wound to stop bleeding is beneficial. Some participants believed that home remedies are useful, including honey (34.3%) and toothpaste (13.5%) for wound care, coffee for controlling bleeding (22.7%), and perfumes for disinfecting cut wounds (22.7%); 14.3% believed that perfumes and incense reduce wound healing time, and 15.7% believed the same about Zamzam water. Adhesive bandages (80.2%), medical swabs (79.7%), and dry gauze (78.7%) were the materials most commonly reported as used at home, whereas 27.3% reported saline solutions. Half of the participants (50.2%) self-reported knowledge of wound infection signs, and 59.4-61.8% recognized individual signs. Regarding anticipated ED use, 76.1% would present within one hour if stitches were required, and only 28.0% believed that all cut wounds require an ED visit. Overall, 51.0% of participants had good knowledge. Prior first aid training was significantly associated with good knowledge (80.9% vs 37.1%; $p<0.001$) and with higher recognition of infection signs (93.1-95.4% vs 43.8-46.3%; $p<0.001$), whereas healthcare occupation was not significantly associated with knowledge level (67.4% vs 49.1%; $p=0.071$).

Conclusions: Although half of the participants had good knowledge, important knowledge gaps and potentially harmful beliefs and practices persist. Structured first aid education, culturally tailored health messaging, and targeted digital campaigns may be considered; their effect on wound care practices and ED use requires prospective evaluation.

Categories: Family/General Practice, General Surgery, Emergency Medicine
Keywords: burn first aid, burn wound care, diabetic wound, emergency department, first aid management, home remedies, knowledge, saudi arabia, wound care management, wound infections

Introduction

Background

Injuries represent a major global public health challenge, accounting for a significant proportion of worldwide morbidity and mortality. According to the World Health Organization (WHO), injuries contribute

to approximately 10% of global mortality and 12% of the total disease burden across all age groups [1,2]. Traumatic cut wounds and lacerations are among the most frequently encountered injuries, commonly resulting from road accidents, occupational hazards, sports, and domestic activities [3]. The global burden of injury is aggravated by insufficient access to proper wound care and limited public knowledge of safe wound management practices.

Evidence indicates that many individuals lack basic wound care skills. Pieper et al. reported that 38.2% of patients discharged with wounds did not know how to clean them, and 58.7% lacked guidance on dressing changes [4]. Improper wound care may lead to infection rates ranging from 3% to 15%, depending on wound type, delay in care, and home management practices [5]. Furthermore, individuals who are unaware of the early signs of infection, such as pain, swelling, redness, or purulent discharge, may delay seeking proper care, thereby increasing the risk of complications [6].

In Saudi Arabia, wound care knowledge among the general population remains insufficiently explored. A study conducted in Riyadh reported limited public awareness about proper wound care procedures and a reliance on traditional practices that may not be evidence-based [7]. While certain traditional practices, such as the use of honey, demonstrate antimicrobial benefits when properly applied [8], others, such as toothpaste or coffee grounds, may worsen wound conditions or introduce infections when used inappropriately [7].

Technological advancements and digital platforms have increased access to wound care information. Social media and mobile health applications may positively influence knowledge, attitudes, and practices regarding home wound care [9]. However, the reliability of shared information varies, and digital literacy plays a significant role in how individuals interpret and apply such advice. Health education interventions have been shown to improve self-care behaviors and wound management practices, which signifies the potential impact of well-designed educational programs [10].

Despite growing interest in community health education, there remains a notable gap in studies assessing knowledge, behaviors, and emergency department utilization related to cut wound care in Saudi Arabia, particularly in the Makkah region, which is characterized by a diverse population including citizens, expatriates, and pilgrims. Such diversity may influence cultural practices, health-seeking behaviors, and wound care decision-making. Moreover, emergency departments in Saudi Arabia often experience overcrowding, partly due to non-urgent visits. Improved public education on basic wound care and first aid may reduce avoidable emergency visits, alleviate the healthcare burden, and improve patient outcomes.

This study aims to assess the knowledge, awareness, and practices of residents in the Makkah region regarding cut wound management, the use of home remedies, and anticipated emergency department use. The findings may inform future community-based education initiatives, contribute to public health strategies, and promote safer, evidence-based wound care practices in the Kingdom of Saudi Arabia.

Aim of the study

To assess the awareness, knowledge, and practices related to traumatic cut wound management and the use of home remedies among residents of the Makkah Region, Saudi Arabia.

Specific objectives

The specific objectives of the study were to evaluate public awareness and knowledge regarding the management of traumatic cut wounds, and to assess community practices related to cut wound care and the use of home remedies.

Secondary objectives

Secondary objectives include exploring public behaviors related to various wound management methods, identifying commonly used home remedies for traumatic cut wounds, and determining factors influencing the decision to seek emergency department care.

Materials And Methods

Study setting, design, and subjects

The study was conducted in the Makkah Region, Saudi Arabia. Participants were recruited through online platforms targeting the general population, including both males and females. This was a descriptive cross-sectional study conducted using an online, self-administered questionnaire. The target population of this study was the general population living in the Makkah Region, Saudi Arabia.

Inclusion and exclusion criteria

Individuals aged 15 years and above, of both male and female sexes, who were residents of the Makkah Region and were willing to provide informed consent were included, while those below 15 years of age were

excluded.

Sample size

The minimum sample size was calculated using OpenEpi version 3.0 for a single proportion, assuming a Makkah Region population of 8,557,766, an expected proportion of 50%, a 95% confidence level, a 5% margin of error, and a design effect of 1.0, yielding a minimum of 385 participants. Because participants were recruited through non-probability convenience sampling, this calculation reflects the nominal precision expected under simple random sampling and does not ensure representativeness of the regional population.

Sampling technique

A convenience sampling approach was used. The questionnaire link was disseminated through social media platforms to maximize reach and participation. Data were collected after IRB approval. Because the survey was administered via Google Forms, which records only submitted responses, the number of individuals who accessed the survey without completing it could not be determined, and a response rate could not be calculated. Of 432 responses received, 2 (0.5%) declined consent and did not proceed with the survey. Of the remaining 430, 16 were pilot study responses (2 of these participants subsequently withdrew), all of which were excluded from the main analysis, and 414 participants were included in the final analysis.

Data collection

Data were collected through an online questionnaire developed by the authors specifically for this study, based on a review of the relevant literature on wound care knowledge, first aid practices, and emergency service utilization; accordingly, no permission from third parties was required for its use. All items were written de novo by the authors; no existing questionnaire or validated instrument was adapted. Before data collection, the questionnaire was reviewed by five emergency medicine physicians to assess its content and face validity. The questionnaire was developed and administered in Arabic, and the English version presented in this manuscript was translated by a language specialist and back-translated into Arabic to verify its accuracy. A pilot study was then conducted with 16 participants, 2 of whom subsequently withdrew; pilot responses were excluded from the main analysis, and no modifications to the questionnaire were made following the pilot. The survey included an informed consent section at the beginning, followed by demographic questions and items assessing knowledge, awareness, practices, and decisions related to emergency department visits. Only participants who provided consent proceeded with the survey. Contact information for the research team was provided for inquiries or clarifications. The full questionnaire is provided in the Appendix (Appendix A).

To prevent duplicate submissions, the Google Forms "Limit to 1 response" setting was enabled, restricting each Google account to a single submission. All items were set as mandatory in the online form; one missing value for the injury-experience item was nevertheless present in the dataset and was excluded from the analysis of that item. Eligibility (age and residence in the Makkah Region) was based on self-report, with response options limited to eligible age groups and to cities within the region. Most questionnaire items assessed knowledge, beliefs, or anticipated (hypothetical) responses, such as the expected time to visit the emergency department and the acceptable waiting time. Items assessing previous experience were limited to prior first aid training, prior experience dealing with injuries, the type of injury, and the time to receiving medical care. Items on home wound-care materials asked which materials are used at home rather than recording participants' own use during a specific injury.

Ethical considerations

The study adhered to ethical standards for research involving human participants. Participation was voluntary, and no incentives were offered. Explanation of the study objectives and nature of participation was included in the first section of the questionnaire, followed by an electronic consent item; only participants who agreed proceeded to the questionnaire. Confidentiality was strictly maintained, and no personal identifiers were collected. The informed consent statement clearly explained the study purpose, any potential risks or benefits, and the right to withdraw at any time without consequences. The questionnaire is attached as part of the submission package. The study protocol, including the eligibility criterion of age 15 years and above and the online informed consent procedure, was reviewed and approved by the Institutional Review Board (IRB) of King Abdullah International Medical Research Center (KAIMRC), which is registered with the Saudi National Committee of Bioethics (registration no. H-01-R-005) (approval no. 00000270525; expedited review; December 23, 2025). Separate parental or guardian consent was not obtained; all participants, including those aged 15-17 years, provided electronic consent before accessing the questionnaire.

Statistical analysis

Data were analyzed using IBM SPSS Statistics version 30.0 (IBM Corp., Armonk, NY). Descriptive statistics were employed to summarize participant characteristics and survey responses. Categorical variables were presented as frequencies and percentages across all tables. Sociodemographic characteristics including age

group, gender, place of residence, and occupation were summarized with both absolute counts and relative proportions. Similarly, participants' experiences with injuries, first aid training, and sources of medical information were displayed using frequency distributions.

A total knowledge score was calculated from 20 items (Appendix A), with each item coded 1 for the correct response and 0 otherwise (possible range, 0-20); for items describing practices that are not recommended (for example, applying butter or coffee to a wound), "No" was coded as the correct response; for the small sharp-object item, "Yes" was considered correct (superficial objects may be removed with care), whereas the large sharp-object item (intended correct response, "No", as deeply embedded or impaled objects should be left in place until clinical assessment) was not included in the score; these items were retained after the exclusion of items that reduced internal consistency, and the final scale showed good internal consistency (Cronbach's $\alpha = 0.907$). Knowledge was categorized as poor (fewer than 13 correct answers; <65% of the maximum score), moderate (13-15 correct answers; 65%-75%), or good (more than 15 correct answers; >75%). These cut-off values were derived from the score distribution in the initial analysis (median, 13; third quartile, 15) and were retained unchanged after the scoring of the four reverse-keyed items was corrected; they were not derived from an externally validated standard.

Associations between categorical variables, including the relationship of first aid training and healthcare occupation status with knowledge level and recognition of wound infection signs, were assessed using the Pearson chi-square test, with the corresponding χ^2 test statistics reported alongside p-values. Healthcare occupation status was examined because healthcare workers were expected to have greater exposure to wound care through their work; this comparison was used to explore whether occupational background was associated with knowledge level in this sample. A p-value of less than 0.05 was considered statistically significant.

Results

A total of 414 participants were included in the analysis. The sociodemographic characteristics of the study population are presented in Table *1*. Participants were distributed across multiple age groups, with the largest proportion aged 15-25 years (n = 135, 32.6%), followed by those aged 48-58 years (n = 110, 26.6%). Females constituted more than half of the sample (n = 244, 58.9%), while males accounted for the remainder (n = 170, 41.1%). Nearly half of the participants resided in Jeddah (n = 198, 47.8%), followed by Makkah (n = 130, 31.4%) and Taif (n = 86, 20.8%). Regarding occupation, 138 participants (33.3%) were unemployed, 135 (32.6%) were employed, 98 (23.7%) were students, and 43 (10.4%) were employed as healthcare workers (Table *1*).

Variable		N	%
Age groups	15-25	135	32.60%
	26-36	55	13.30%
	37-47	65	15.70%
	48-58	110	26.60%
	59-69	48	11.60%
	70+	1	0.20%
Gender	Male	170	41.10%
	Female	244	58.90%
Place of residence	Makkah	130	31.40%
	Jeddah	198	47.80%
	Taif	86	20.80%
Occupation	Unemployed	138	33.30%
	Student	98	23.70%
	Employed	135	32.60%
	Employed (healthcare worker)	43	10.40%

TABLE 1: Sociodemographic characteristics of study participants (n = 414)

Participants' experiences with injuries, first aid training, and sources of medical information are summarized in Table *2*. Approximately one-third of participants (n = 131, 31.6%) reported attending a first aid course, while 153 (37.0%) indicated prior experience dealing with injuries. Among these, burns were the most frequently reported injury type (n = 55, 35.9%), followed by cut wounds (n = 36, 23.5%). Of participants with prior experience, most reported that medical care was received immediately after the injury (n = 140, 91.5%), whereas 8 (5.2%) reported that no medical care was received. The most common sources of information regarding home medical care were the internet and social media (n = 145, 35.0%), followed by friends and relatives (n = 74, 17.9%) and healthcare workers (n = 48, 11.6%) (Table *2*).

Variable	Groups	N	%
Have you ever attended a first aid course?	Yes	131	31.6%
	No	283	68.4%
Have you ever dealt with injuries? (n=413)	Yes	153	37.0%
	No	260	63.0%
If your answer to the previous question is yes, what type of injury was it? (n=153)	Surgical wound	18	11.8%
	Ulcers	8	5.2%
	Cut wound	36	23.5%
	Motor vehicle accident	18	11.8%
	Burn	55	35.9%
	Other	18	11.8%
What is the approximate time between the injury and receiving medical care, whether at home or in the hospital? (n=153)	No medical care	8	5.2%
	Immediately	140	91.5%
	Within a month	5	3.3%
	After a month	0	0.0%
What are your sources of information regarding home medical care?	Ministry of Health	30	7.2%
	Healthcare workers	48	11.6%
	Health posters	24	5.8%
	Health campaigns	45	10.9%
	TV and news	20	4.8%
	Internet and social media	145	35.0%
	Friends and relatives	74	17.9%
	Other	28	6.8%

TABLE 2: Participant experience with injuries, first aid training, and sources of medical information (n = 414)

All items were single-response. Prior experience dealing with injuries included injuries sustained by the participant or by another person. Injury type and time to medical care are reported only for participants who reported prior experience (n = 153); responses to these items from participants who reported no prior experience were excluded, and two participants who reported prior experience but selected "None" as the injury type were classified as having no prior experience. One participant had a missing value for the injury-experience item (n = 413).

Knowledge and perceptions related to wound care practices and home remedies are presented in Table 3. Most participants agreed that hands should be washed before touching a wound (n = 260, 62.8%) and that sterile tools should be used (n = 265, 64.0%). Fewer participants believed that large sharp objects (n = 146, 35.3%) or small sharp objects (n = 201, 48.6%) inside a wound should be removed. The majority did not believe wounds should be exposed directly to air (n = 359, 86.7%) or that superficial wounds do not require treatment (n = 361, 87.2%). Beliefs regarding home remedies varied, with 142 participants (34.3%) believing honey to be useful for wound care, while much smaller proportions believed butter (n = 17, 4.1%) or sugar (n = 8, 1.9%) to be useful. Perceptions related to bathing, perfumes, incense, and other traditional practices were also reported (Table 3).

Question	Yes		No	
	N	%	N	%
Do you think hands should be washed before touching a wound?	260	62.8%	154	37.2%
Do you think sterile tools should be used when touching a wound?	265	64.0%	149	36.0%
Do you think large and sharp objects inside a wound should be removed?	146	35.3%	268	64.7%
Do you think small and sharp objects inside a wound should be removed?	201	48.6%	213	51.4%
Do you think the wound should be exposed directly to air?	55	13.3%	359	86.7%
Do you think pressing on the wound and increasing bleeding in the case of a cut wound is beneficial?	123	29.7%	291	70.3%
Do you think cutting off blood flow by tightly tying the wound is beneficial?	187	45.2%	227	54.8%
Do you think wounds prevent a person from leaving the house?	73	17.6%	341	82.4%
Do you think superficial wounds do not require treatment?	53	12.8%	361	87.2%
Do you think it is better for another person to provide medical care to the injured person rather than the person himself/herself?	220	53.1%	194	46.9%
Do you think honey is a useful substance for wound care?	142	34.3%	272	65.7%
Do you think toothpaste is a useful substance for wound care?	56	13.5%	358	86.5%
Do you think butter is a useful substance for wound care?	17	4.1%	397	95.9%
Do you think sugar is a useful substance for wound care?	8	1.9%	406	98.1%
Do you think coffee is useful for controlling bleeding?	94	22.7%	320	77.3%
Do you think Vaseline is useful for reducing wound effects?	105	25.4%	309	74.6%
Do you think “Sabkha” works as an anti-inflammatory?	38	9.2%	376	90.8%
Do you think washing wounds with Zamzam water helps reduce wound healing time?	65	15.7%	349	84.3%
Do you think perfumes can be used to disinfect cut wounds?	94	22.7%	320	77.3%
Do you think perfumes and incense can reduce wound healing time?	59	14.3%	355	85.7%
Do you think bathing delays wound healing?	122	29.5%	292	70.5%

TABLE 3: Knowledge and perceptions regarding wound care practices and home remedies among study participants (n = 414)

Materials reported as used at home for wound care are detailed in Table *4*. Commonly reported materials included adhesive bandages (n = 332, 80.2%), medical swabs (n = 330, 79.7%), dry gauze (n = 326, 78.7%), and cotton (n = 252, 60.9%). Alcohol-based antiseptics (n = 238, 57.5%) and antiseptic solutions such as Betadine or Mercurochrome (n = 226, 54.6%) were also frequently reported. Less commonly reported items included perfume (n = 47, 11.4%), scented tissues (n = 31, 7.5%), towels (n = 67, 16.2%), and wet gauze (n = 75, 18.1%) (Table *4*).

Materials used for home injury care	Yes		No	
	N	%	N	%
Dry gauze	326	78.7%	88	21.3%
Wet gauze	75	18.1%	339	81.9%
Cotton	252	60.9%	162	39.1%
Adhesive bandage	332	80.2%	82	19.8%
Towel	67	16.2%	347	83.8%
Scented tissues	31	7.5%	383	92.5%
Tap water	123	29.7%	291	70.3%
Saline solution	113	27.3%	301	72.7%
Medical swabs	330	79.7%	84	20.3%
Alcohol-based antiseptic	238	57.5%	176	42.5%
Antiseptic (Betadine / Mercurochrome)	226	54.6%	188	45.4%
Perfume	47	11.4%	367	88.6%
Nothing	6	1.4%	408	98.6%

TABLE 4: Materials reported as used at home for wound care among study participants (n = 414)

Items asked which materials are used at home for injury care and wound cleaning (select all that apply); responses reflect reported usual household practice rather than use during a specific injury.

Table 5 summarizes participants' responses regarding emergency department visits and expectations related to wound management. The majority indicated they would visit the emergency department within one hour if stitches were required (n = 315, 76.1%). Most participants reported that the maximum acceptable waiting time in the emergency department was one hour (n = 335, 80.9%). Regarding stitch removal, 180 participants (43.5%) expected removal within 5-7 days, while 124 (30.0%) expected removal after more than seven days (Table 5).

Questions	Responses	N	%
If the wound requires stitches, how long would it take you to visit the emergency department?	Not going to ER	7	1.7%
	Less than 1 hour	315	76.1%
	1-3 hours	83	20.0%
	3-7 hours	7	1.7%
	More than 7 hours	2	0.5%
What is the maximum acceptable waiting time in the emergency department before wound evaluation?	One hour	335	80.9%
	Two hours	55	13.3%
	3 hours	15	3.6%
	4 hours	9	2.2%
If stitches are present, how many days are expected before stitch removal?	2-3 days	36	8.7%
	3-5 days	74	17.9%
	5-7 days	180	43.5%
	More than 7 days	124	30.0%

TABLE 5: Time to emergency department visit, acceptable waiting times, and expected duration before Stitch removal among study participants (n = 414)

ER: emergency room

Participants' perceptions of emergency department visits, wound management practices, and factors influencing wound healing are shown in Table 6. Less than one-third of participants believed that all cut wounds require an emergency room visit (n = 116, 28.0%). Commonly identified reasons for emergency department visits included continuous bleeding (n = 363, 87.7%) and large wound size (n = 351, 84.8%). More than half of participants believed health centers are qualified to handle wounds (n = 241, 58.2%) and reported being able to clean and dress wounds at home (n = 218, 52.7%). Additionally, 259 participants (62.6%) believed good nutrition is necessary for wound healing, and 216 (52.2%) believed smoking negatively affects wound healing (Table 6).

Question	Yes		No	
	N	%	N	%
Do you think all cut wounds require an emergency room visit?	116	28.0%	298	72.0%
What signs may appear on a wound that would require you to visit the emergency department?				
Large cut wound size	351	84.8%	63	15.2%
Continuous bleeding	363	87.7%	51	12.3%
Difficulty cleaning the wound	227	54.8%	187	45.2%
Presence of a foul odor from the wound	267	64.5%	147	35.5%
Does the possibility of needing stitches prevent you from visiting the emergency department?	23	5.6%	391	94.4%
Do you think all wounds require antibiotics upon discharge from the emergency department?	99	23.9%	315	76.1%
Do you think all wounds require follow-up cleaning and dressing changes at the emergency department or health center?	79	19.1%	335	80.9%
Do you think the health center is qualified to handle and clean wounds?	241	58.2%	173	41.8%
Do you think you are able to clean and dress the wound at home?	218	52.7%	196	47.3%
Do you think good nutrition is necessary for wound healing?	259	62.6%	155	37.4%
Do you think smoking can negatively affect wound healing?	216	52.2%	198	47.8%
Are antibiotics necessary for wound healing?	176	42.5%	238	57.5%

TABLE 6: Participants' perceptions regarding emergency department visits, wound management practices, and factors influencing wound healing (n = 414)

Knowledge and awareness of wound infection signs and saline solution properties are presented in Table 7. Approximately half of the participants self-reported having knowledge of wound infection signs (n = 208, 50.2%). Commonly recognized signs included discharge of pus (n = 256, 61.8%), swelling (n = 254, 61.4%), redness (n = 247, 59.7%), and foul odor (n = 246, 59.4%). About one-third of participants believed saline solution acts as an anti-inflammatory for wounds (n = 133, 32.1%) (Table 7).

Questions	Yes		No	
	N	%	N	%
Do you have knowledge of the signs of wound infection?	208	50.2%	206	49.8%
Do you think saline solution works as an anti-inflammatory for wounds?	133	32.1%	281	67.9%
One of the signs of wound infection is redness at and around the wound	247	59.7%	167	40.3%
One of the signs of wound infection is swelling at the wound site	254	61.4%	160	38.6%
One of the signs of wound infection is the presence of a foul odor	246	59.4%	168	40.6%
One of the signs of wound infection is discharge of pus	256	61.8%	158	38.2%

TABLE 7: Knowledge and awareness of wound infection signs and saline solution properties among study participants (n = 414)

The association between prior first aid training and recognition of signs of wound infection was assessed using Pearson's chi-square test (Table 8). Participants who had attended a first aid course demonstrated significantly higher recognition of all assessed signs compared with those who had not. Among trained participants (n = 131), redness at and around the wound was recognized by 122 (93.1%), compared with 125 of 283 (44.2%) untrained participants ($\chi^2 = 89.2$, df = 1, $p < 0.001$). Similarly, swelling at the wound site was

recognized by 125 (95.4%) trained versus 129 (45.6%) untrained participants ($\chi^2 = 93.8$, df = 1, $p < 0.001$), presence of a foul odor by 122 (93.1%) versus 124 (43.8%) ($\chi^2 = 90.3$, df = 1, $p < 0.001$), and discharge of pus by 125 (95.4%) versus 131 (46.3%) ($\chi^2 = 91.6$, df = 1, $p < 0.001$). These findings indicate a strong association between first aid training and higher recognition of wound infection signs (Table 8).

Responses to signs of wound infection:		Have you ever attended a first aid course?				χ^2	P-value
		Yes (n = 131)		No (n = 283)			
		N	%	N	%		
Redness at and around the wound	Yes	122	93.1%	125	44.2%	89.2	<0.001
	No	9	6.9%	158	55.8%		
Swelling at the wound site	Yes	125	95.4%	129	45.6%	93.8	<0.001
	No	6	4.6%	154	54.4%		
Presence of a foul odor	Yes	122	93.1%	124	43.8%	90.3	<0.001
	No	9	6.9%	159	56.2%		
Discharge of pus	Yes	125	95.4%	131	46.3%	91.6	<0.001
	No	6	4.6%	152	53.7%		

TABLE 8: Association between prior first aid training and recognition of signs of wound infection among study participants.

Percentages are column percentages within each training group (attended a first aid course, n = 131; did not attend, n = 283).

The median total knowledge score was 16 (IQR: 6-17), with observed scores ranging from 5 to 20. Based on the predefined knowledge score categories, 152 participants (36.7%) demonstrated poor knowledge, 51 (12.3%) had moderate knowledge, and 211 (51.0%) demonstrated good knowledge. The associations between knowledge level and healthcare occupation status and prior first aid training are presented in Table 9. Knowledge level was not significantly associated with being an employed healthcare worker ($\chi^2 = 5.278$, df = 2, $p = 0.071$). In contrast, prior attendance at a first aid course was significantly associated with knowledge level ($\chi^2 = 102.628$, df = 2, $p < 0.001$). Among participants who had attended a first aid course, 80.9% demonstrated good knowledge, 17.6% moderate knowledge, and 1.5% poor knowledge, compared with 37.1%, 9.9%, and 53.0%, respectively, among those who had not attended a first aid course (Table 9).

Variable	Responses	Knowledge level			χ^2	P-value
		Poor	Moderate	Good		
Employed health care worker	Yes	10 (23.3%)	4 (9.3%)	29 (67.4%)	5.278	0.071
	No	142 (38.3%)	47 (12.7%)	182 (49.1%)		
Have you ever attended a first aid course?	Yes	2 (1.5%)	23 (17.6%)	106 (80.9%)	102.628	<0.001
	No	150 (53.0%)	28 (9.9%)	105 (37.1%)		

TABLE 9: Association between knowledge level and healthcare occupation status and prior first aid training among study participants (n = 414)

Discussion

This study provides a comprehensive assessment of knowledge and awareness related to cut wound management, the use of home remedies, and anticipated emergency department (ED) use among residents of the Makkah region, Kingdom of Saudi Arabia. Percentages reported in this section are descriptive proportions of the study sample; statistical significance testing (Pearson's chi-square) was performed only for the associations of prior first aid training with recognition of wound infection signs and of prior first aid

training and healthcare occupation with knowledge level, and the corresponding p-values are reported where these apply.

Overall, 51.0% of participants were classified as having good knowledge based on the study cut-offs; knowledge level differed significantly by prior first aid training (good knowledge, 80.9% vs. 37.1%; χ^2 = 102.628, df = 2, p < 0.001) but not by healthcare occupation (good knowledge, 67.4% among healthcare workers vs. 49.1% among other participants; χ^2 = 5.278, df = 2, p = 0.071). However, substantial misconceptions and gaps in practical first aid knowledge remain evident [1,2]. Specifically, 62.8% of participants reported that hands should be washed before touching a wound and 64% agreed that sterile tools should be used, which aligns with international guidelines emphasizing infection prevention as a cornerstone of first aid and wound management [1]. These findings may reflect exposure to basic health messages within the community and could serve as a basis for further education.

Regarding foreign bodies, 48.6% of participants correctly indicated that small superficial sharp objects may be removed, and 64.7% correctly indicated that large sharp objects inside a wound should not be removed; deeply embedded or impaled objects should be left in place until clinical assessment, as removal outside a clinical setting may exacerbate bleeding, increase infection risk, or cause further tissue damage [3]. Similarly, 45.2% of respondents believed that tightly bandaging a wound to stop bleeding is beneficial, a practice that may result in ischemia, delayed healing, or even tissue necrosis if applied incorrectly or for prolonged periods [4].

These findings highlight critical gaps in applied first aid knowledge and underscore the need for clearer public guidance regarding when to intervene and when to seek professional medical care. Beliefs about home remedies for wound care varied considerably, reflecting the coexistence of traditional practices and modern medical understanding [5]. Approximately 34.3% of participants perceived honey as beneficial for wound care, a belief partially supported by evidence demonstrating the antimicrobial and healing properties of medical-grade honey when used appropriately [1,7].

However, the beliefs held by a minority of respondents that toothpaste (13.5%), butter (4.1%), and sugar (1.9%) are useful for wound care, that coffee is useful for controlling bleeding (22.7%), that perfumes can be used to disinfect cut wounds (22.7%), and that perfumes and incense can reduce wound healing time (14.3%) are concerning. These agents may contaminate wounds, impair healing, and increase the risk of infection [8,11]. Additionally, 15.7% believed that Zamzam water helps reduce wound healing time, reflecting cultural and religious influences on health behaviors. These findings emphasize the importance of culturally sensitive health education that respects local beliefs while clearly differentiating safe, evidence-based practices from potentially harmful ones [6,9].

Regarding materials reported as used at home for wound care, adhesive bandages were reported by 80.2% of participants, medical swabs by 79.7%, dry gauze by 78.7%, cotton by 60.9%, alcohol-based antiseptics by 57.5%, and antiseptic solutions such as Betadine or Mercurochrome by 54.6%, indicating that basic first aid materials were commonly reported as used at home [10]. Nevertheless, only 27.3% reported saline solutions as used at home and 32.1% believed saline has anti-inflammatory properties, indicating incomplete understanding of its primary role as a wound-cleansing agent rather than a therapeutic intervention [9-11]. Of greater concern, a minority of participants reported perfume (11.4%) and scented tissues (7.5%) among the materials used at home for wound care. Neither product is intended for wound care: perfumes contain alcohol and fragrance compounds that may irritate damaged tissue without providing reliable disinfection, and scented tissues are non-sterile and may leave fragrance residue in the wound. The reported household use of perfume parallels the belief, held by 22.7% of participants, that perfumes can disinfect cut wounds, suggesting that this misconception extends into practice in some households and should be specifically addressed in public education.

Participants' anticipated decisions regarding ED visits revealed both appropriate decision-making and areas requiring optimization. A total of 76.1% indicated they would visit the emergency department within one hour if stitches were required, and 80.9% considered one hour the maximum acceptable waiting time. Furthermore, 87.7% identified continuous bleeding and 84.8% large wound size as indications for emergency consultation, responses that are consistent with clinical recommendations and suggest appropriate recognition of injury severity [12,13]. Importantly, only 28% believed that all cut wounds require an ED visit, indicating some capacity for self-triage. However, 43.5% expected stitch removal within 5-7 days and 30% expected removal after more than seven days, reflecting variability in expectations that may not always align with clinical practice and could contribute to dissatisfaction or unnecessary visits [14].

Encouragingly, 58.2% believed that primary healthcare centers are qualified to manage wounds and 52.7% reported being able to clean and dress wounds at home, which may suggest a potential role for primary healthcare services in managing minor injuries; whether this would reduce ED burden requires prospective evaluation. Nonetheless, the finding that nearly half of participants lacked confidence in self-care highlights the need for structured community-based training programs aimed at improving practical skills and self-efficacy [9,11]. In addition, 42.5% believed that antibiotics are necessary for wound healing and 23.9% believed that all wounds require antibiotics upon discharge from the ED, misconceptions that may lead to

unnecessary antibiotic expectations and should be addressed in public education.

Only 50.2% reported having knowledge of infection signs, although recognition of specific symptoms was higher, including discharge of pus (61.8%), swelling (61.4%), redness (59.7%), and foul odor (59.4%). Recognition of each of these signs was significantly higher among participants who had attended a first aid course than among those who had not: discharge of pus (95.4% vs. 46.3%; $\chi^2 = 91.6$), swelling (95.4% vs. 45.6%; $\chi^2 = 93.8$), redness (93.1% vs. 44.2%; $\chi^2 = 89.2$), and foul odor (93.1% vs. 43.8%; $\chi^2 = 90.3$) (all df = 1, $p < 0.001$). Early recognition of infection is critical for timely intervention and the prevention of complications, particularly among vulnerable populations such as individuals with diabetes or compromised immunity [15].

Furthermore, only 31.6% of participants had attended a formal first aid course, representing a valuable opportunity for public health intervention. Attendance was significantly associated with both good knowledge ($p < 0.001$) and recognition of wound infection signs (all $p < 0.001$) in this sample. Given that 35% identified the internet and social media as their main source of information, targeted digital health campaigns endorsed by healthcare authorities could be an effective strategy to correct misconceptions, reinforce safe wound care practices, and promote appropriate healthcare-seeking behavior. In conclusion, while 51.0% of participants were classified as having good knowledge, important knowledge gaps and beliefs in non-evidence-based remedies persist. Structured first aid education, culturally tailored public health messaging, and greater integration of primary healthcare services in wound management may be worth considering; however, their effect on outcomes and emergency department utilization was not assessed in this study and requires prospective evaluation.

Finally, only 31.6% of participants in the present study had attended a formal first aid course, which is consistent with findings from other studies in Saudi Arabia reporting similarly modest training rates among the general population, such as 36% in Bashekah et al. [16] and 34.6% in Al-Johani et al. [17]. Importantly, our findings extend beyond training prevalence by demonstrating a strong and statistically significant association between prior first aid training and higher recognition of wound infection signs. Participants who had attended first aid training showed markedly higher recognition of redness, swelling, foul odor, and pus discharge (93.1-95.4%), compared with 43.8-46.3% among untrained individuals ($\chi^2 = 89.2$-93.8, df = 1, all $p < 0.001$). This pattern is in agreement with previous literature reporting that prior training is associated with first aid knowledge and performance. For instance, Al-Johani et al. reported significantly higher knowledge levels among those who had previously attended first aid training [17], while Albadrani et al. highlighted the positive influence of education and training on knowledge and practice levels [18]. Similarly, broader population studies have emphasized that gaps in first aid knowledge are largely attributable to insufficient training and can be improved through structured educational interventions [19]. Collectively, these findings consistently support our results, suggesting that first aid training is associated with both higher general knowledge and the practical ability to recognize potentially serious conditions such as wound infections.

This study has several strengths, including a relatively large sample size, comprehensive assessment of multiple domains of wound care knowledge, and inclusion of behavioral, perceptual, and practical aspects of first aid and anticipated emergency service use. The use of standardized descriptive statistics with frequencies and percentages enhances the clarity and reproducibility of findings.

However, several limitations should be considered. The cross-sectional design precludes causal inference, and self-reported responses may be subject to recall and social desirability bias. Participants aged 15-17 years were enrolled without separate parental or guardian consent; because age was collected in categories (15-25 years), this subgroup could not be identified or analyzed separately.

The non-probability convenience sampling technique may have introduced self-selection bias, and because the survey was distributed online, a response rate could not be calculated. Although the single-response setting reduced duplicate submissions, responses and eligibility could not be independently verified. Online recruitment through social media may have underrepresented individuals with limited internet access or lower digital literacy, and the single-response restriction required a Google account, which may have further limited participation. Together, these factors substantially limit the representativeness and external validity of the findings.

Most practice- and emergency-related items reflected anticipated rather than observed behavior, and items concerning previous injuries and care relied on retrospective self-report without a defined recall period, which may have introduced recall bias. The analysis was not stratified by prior injury experience, as the study primarily aimed to assess knowledge and awareness in the general population.

The questionnaire was developed by the authors; although face and content validity were assessed by expert review and the knowledge score showed good internal consistency, construct validity was not formally established. Terms such as "large" wound size and "large" or "small" sharp objects were not defined by specific measurements in the questionnaire and were left to participants' own interpretation, which may have led to variability in responses.

In addition, the foreign-body items did not distinguish superficially embedded from deeply embedded or impaled objects, which may have affected interpretation. Associations were examined using unadjusted chi-square tests; the association between first aid training and knowledge may therefore be confounded by factors such as age, occupation, or educational level, which were not collected, and first aid training should not be interpreted as an independent determinant of knowledge.

Additionally, the study was conducted within a single geographic region, which may limit generalizability to other populations in Saudi Arabia or beyond. Future studies incorporating observational assessments and multi-regional sampling may provide a more accurate evaluation of actual first aid practices and improve external validity.

Conclusions

This study found that, although about half of the residents of the Makkah region surveyed had good knowledge of cut wound management and most reported appropriate anticipated health-seeking decisions and familiarity with basic first aid supplies, important gaps remain. These included limited recognition of wound infection signs, a common misconception that antibiotics are necessary for wound healing, and the reported use or endorsement of potentially harmful household remedies, such as perfume. Prior first aid training was associated with better wound care knowledge and greater recognition of infection signs. These findings highlight the need for accessible, practical first aid education to improve community wound-care knowledge and promote the safe management of minor wounds. Digital communication channels could also be used to address misconceptions and discourage potentially harmful home remedies. Prospective studies are needed to evaluate whether such educational interventions improve wound-care practices, promote timely healthcare seeking, and reduce wound-related complications and unnecessary emergency department visits.

Appendices

Appendix A

Study Questionnaire

Assessing Knowledge and Awareness of Dealing with Cut Wounds, the Use of Home Remedies, and Emergency Visits in the Makkah Region, Kingdom of Saudi Arabia

The questionnaire was developed by the authors and administered online in Arabic. The original Arabic items are shown together with their English translations. An informed consent statement appeared at the beginning of the survey; only participants who provided consent proceeded to the questions.

Consent statement (presented to participants):

This survey aims to assess knowledge, awareness, and practices related to the management of traumatic cut wounds, the use of home remedies, and emergency department visits among residents of the Makkah Region. Participation is voluntary, and no personal identifiers are collected. All responses will remain confidential and will be used for research purposes only. You may withdraw at any time without any consequences. For inquiries or clarifications, you may contact the research team.

Informed Consent

Q1. Do you agree to participate in this study?

هل تريد المشاركة في هذه الدراسة

☒ Yes / نعم

☒ No / لا

Section A: Sociodemographic Characteristics

Q2. Gender

الجنس :

☒ Male / ذكر

☒ Female / أنثى

Q3. Age group

الفئة العمرية

☒ 15-25 years / ١٥ - ٢٥

☒ 26-36 years / ٢٦ - ٣٦

☒ 37-47 years / ٣٧ - ٤٧

☒ 48-58 years / ٤٨ - ٥٨

☒ 59-69 years / ٥٩ - ٦٩

☒ 70 years and above / ٧٠ و اكبر

Q4. Place of residence

مكان الإقامة :

☒ Makkah / مكة المكرمة

☒ Jeddah / جدة

☒ Taif / الطائف

Q5. Occupation

المهنة

☒ Unemployed / غير موظف

☒ Student / طالب

☒ Employed (non-healthcare) / موظف غير صحي

☒ Employed (healthcare worker) / موظف ممارس صحي

Section B: Injury Experience, First Aid Training, and Sources of Medical Information

Q6. Have you ever attended a first aid course?

هل سبق لك حضور دورة اسعافات اولية ؟

☒ Yes / نعم

☒ No / لا

Q7. Have you ever dealt with injuries?

هل سبق لك التعامل مع الاصابات ؟

☒ Yes / نعم

☒ No / لا

Q8. If your answer to the previous question is yes, what type of injury was it?

ان كانت اجابتك نعم ما هو نوع الاصابة ؟

☒ I have never dealt with an injury / لم يسبق لي التعامل مع اصابة

☒ Surgical wound / جرح جراحي

☒ Ulcers / تقرحات

☒ Cut wound / جروح قطعية

☒ Motor vehicle accident / حادث سير

☒ Burn / حروق

☒ Other / اخرى

Q9. What is the approximate time between the injury and receiving medical care, whether at home or in the hospital?

ما المدة التقريبية بين الاصابة و تلقي الرعاية الطبية سواء بالمنزل او المستشفى ؟

☒ Immediately / فورا

☒ Within a month of the injury / خلال شهر من الاصابة

☒ After a month of the injury / بعد شهر من الاصابة

☒ I did not receive medical care / لم اتلقى رعاية طبية

Q10. What are your sources of information regarding home medical care?

ما هي مصادرك لتلقي معلومات عن الرعاية الطبية المنزلية ؟

☒ Ministry of Health (937) / وزارة الصحة ٩٣٧

☒ Healthcare workers / موظفي الرعاية الصحية

☒ Health posters/publications / المنشورات الطبية

☒ Health awareness campaigns / الحملات التوعوية الطبية

☒ TV and news / التلفاز و نشرات الاخبار

☒ Internet and social media / الانترنت و مواقع التواصل الاجتماعي

☒ Friends and relatives / الاقارب و الاصدقاء

☒ Other / اخرى

Section C: Knowledge and Perceptions Regarding Wound Care Practices and Home Remedies

Q11. Do you think hands should be washed before touching a wound?

هل تعتقد انه يجب غسل اليدين قبل لمس الجرح ؟

☒ Yes / نعم

☒ No / لا

Q12. Do you think sterile tools should be used when touching a wound?

هل تعتقد انه يجب استخدام ادوات معقمة لملامسة الجرح ؟

☒ Yes / نعم

☒ No / لا

Q13. Do you think large and sharp objects inside a wound should be removed?

هل تعتقد انه يجب استخراج اي قطع كبيرة و حاده تكون بداخل الجرح ؟

☒ Yes / نعم

☒ No / لا

Q14. Do you think small and sharp objects inside a wound should be removed?

هل تعتقد انه يجب استخراج اي قطع صغيرة و حاده تكون بداخل الجرح ؟

☒ Yes / نعم

☒ No / لا

Q15. Do you think the wound should be exposed directly to air?

هل تعتقد انه يجب تسليط الجرح للهواء مباشرة ؟

☒ Yes / نعم

☒ No / لا

Q16. Do you think pressing on the wound and increasing bleeding in the case of a cut wound is beneficial?

هل تعتقد ان الضغط على الجرح و زيادة النزيف عند حدوث جرح قطعي مفيد ؟

☒ Yes / نعم

☒ No / لا

Q17. Do you think cutting off blood flow by tightly tying the wound is beneficial?

هل تعتقد ان قطع الدم عن الجرح بربطه بشده مفيد ؟

☒ Yes / نعم

☒ No / لا

Q18. Do you think wounds prevent a person from leaving the house?

هل تعتقد ان الجروح تمنع الشخص من مغادرة المنزل؟

☒ Yes / نعم

☒ No / لا

Q19. Do you think superficial wounds do not require treatment?

هل تعتقد ان الجروح السطحية لا تحتاج للعلاج ؟

☒ Yes / نعم

☒ No / لا

Q20. Do you think it is better for another person to provide medical care to the injured person rather than the person himself/herself?

هل تعتقد انه من الافضل ان يقدم شخص اخر الرعاية الطبية للشخص المصاب بدلا عنه ؟

☒ Yes / نعم

☒ No / لا

Q21. Do you think honey is a useful substance for wound care?

هل تعتقد ان العسل من المواد المفيدة المستعمله لرعاية الجروح؟

☒ Yes / نعم

☒ No / لا

Q22. Do you think toothpaste is a useful substance for burn care?

هل تعتقد ان معجون الاسنان من المواد المفيدة المستعمله لرعاية الحروق ؟

☒ Yes / نعم

☒ No / لا

Q23. Do you think butter is a useful substance for burn care?

هل تعتقد ان الزبدة من المواد المفيدة المستعمله لرعاية الحروق ؟

☒ Yes / نعم

☒ No / لا

Q24. Do you think sugar is a useful substance for burn care?

هل تعتقد ان السكر من المواد المفيدة المستعمله لرعاية الحروق ؟

☒ Yes / نعم

☒ No / لا

Q25. Do you think coffee is useful for controlling bleeding?

هل تعتقد ان البن مفيد للتحكم بالنزيف ؟

☒ Yes / نعم

☒ No / لا

Q26. Do you think Vaseline is useful for reducing burn effects?

هل تعتقد ان (الفازلين) مفيد لتقليل اثار الحروق؟

☒ Yes / نعم

☒ No / لا

Q27. Do you think “Sabkha” works as an anti-inflammatory?

هل تعتقد ان (الصبخة) تعمل كمضاد للالتهابات ؟

☒ Yes / نعم

☒ No / لا

Q28. Do you think washing wounds with Zamzam water helps reduce wound healing time?

هل تعتقد ان غسل الجروح بماء زمزم مفيد لتقليل مدة الئام الجروح ؟

☒ Yes / نعم

☒ No / لا

Q29. Do you think perfumes can be used to disinfect cut wounds?

هل تعتقد ان العطور من المواد التي يمكن استعمالها عند الاصابة بجروح القطعية لتطهيرها؟

☒ Yes / نعم

☒ No / لا

Q30. Do you think perfumes and incense can reduce wound healing time?

هل تعتقد ان العطور و البخور من المواد التي يمكن ان تقلل مدة التأم الجروح؟

☒ Yes / نعم

☒ No / لا

Q31. Do you think bathing delays wound healing?

هل تعتقد ان الاستحمام يعطل التئام الجروح؟

☒ Yes / نعم

☒ No / لا

Section D: Materials Used for Home-Based Wound Care

Q32. Which materials are used for injury care at home? (Select all that apply)

من المواد المستعملة لرعاية الاصابات بالمنزل :

☒ Dry gauze / شاش ناشف

☒ Wet gauze / شاش مبلل

☒ Cotton / قطن

☒ Adhesive bandage / لصق اجراح

☒ Towel / منشفة

☒ Nothing / لا شي

Q33. Which materials are used for cleaning wounds at home? (Select all that apply)

من المواد المستعملة لتنظيف الجروح بالمنزل :

☒ Soap / صابون

☒ Tap water / ماء الصنبور

☒ Saline solution / محلول ملحي

☒ Medical swabs / مسحات طبية

☒ Alcohol-based antiseptic / مطهر كحولي

☒ Antiseptic (Betadine / Mercurochrome) / (معقم (بيتادين-مكركروم

☒ Perfume / عطر

☒ Scented tissues / مناديل معطره

☒ Nothing / لا شي

Section E: Emergency Department Utilization and Wound Management

Q34. Do you think all cut wounds require an emergency room visit?

هل تعتقد ان جميع الجروح القطعية تحتاج زيارة للطوارئ ؟

☒ Yes / نعم

☒ No / لا

Q35. What signs may appear on a wound that would require you to visit the emergency department? (Select all that apply)

ما هي العلامات التي ممكن ان تظهر على الجرح و تستدعيك لزيارة الطوارئ ؟

☒ Large cut wound size / حجم الجرح القطعي كبير

☒ Continuous bleeding / نزيف مستمر

☒ Difficulty cleaning the wound / صعوبة تنظيف الجرح

☒ Presence of a foul odor from the wound / وجود رائحة كريهه من الجرح

Q36. Does the possibility of the wound needing stitches prevent you from visiting the emergency department?

هل احتمالية احتياج الجرح لخياطة تمنعك من زيارة الطوارئ ؟

☒ Yes / نعم

☒ No / لا

Q37. If the wound requires stitches, how long would it take you to visit the emergency department?

اذا كان الجرح يحتاج الى خياطة فكم تحتاج من الوقت لزيارة الطوارئ ؟

☒ Less than one hour / اقل من ساعة

☒ 1-3 hours / ساعة - ٣ ساعات

☒ 3-7 hours / ٣-٧ ساعات

☒ More than 7 hours / اكثر من ٧ ساعات

☒ I will not go to the emergency department / لن اذهب للطورئ

Q38. What is the maximum acceptable waiting time in the emergency department before wound evaluation?

ما هي اقصى مدة مقبولة للانتظار في الطوارئ حتى معاينة الجرح ؟

☒ One hour / ساعة

☒ Two hours / ساعتين

☒ Three hours / ثلاثة ساعات

☒ Four hours / اربعة ساعات

Q39. Do you think all wounds require antibiotics upon discharge from the emergency department?

هل تعتقد ان جميع الجروح تحتاج مضاد حيوي عند الخروج من الطوارئ ؟

☒ Yes / نعم

☒ No / لا

Q40. Do you think all wounds require follow-up cleaning and dressing changes at the emergency department or health center?

هل تعتقد ان جميع الجروح تحتاج زيارات تنظيف و تغير في الطوارئ او المركز الصحي ؟

☒ Yes / نعم

☒ No / لا

Q41. Do you think the health center is qualified to handle and clean wounds?

هل تعتقد ان المركز الصحي مؤهل للتعامل مع الجروح و تنظيفها ؟

☒ Yes / نعم

☒ No / لا

Q42. Do you think you are able to clean and dress the wound at home?

هل تعتقد انك قادر على تنظيف الجرح و التغير عليه في المنزل ؟

☒ Yes / نعم

☒ No / لا

Q43. If stitches are present, how many days are expected before stitch removal?

في حال وجود خياطة كم عدد الايام المتوقعة لفك خياطة الجرح ؟

☒ 2-3 days / ٢-٣ ايام

☒ 3-5 days / ٣-٥ ايام

☒ 5-7 days / ٥-٧ ايام

☒ More than 7 days / اكثر من ٧ ايام

Q44. Do you think good nutrition is necessary for wound healing?

هل تعتقد ان الغذاء الجيد ضروري لإلتئام الجروح ؟

☒ Yes / نعم

☒ No / لا

Q45. Do you think smoking can negatively affect wound healing?

هل تعتقد ان التدخين قد يؤثر سلبا على إلتئام الجروح ؟

☒ Yes / نعم

☒ No / لا

Q46. Are antibiotics necessary for wound healing?

هل المضادات الحيوية ضرورية لإلتئام الجروح ؟

☒ Yes / نعم

☒ No / لا

Section F: Knowledge of Wound Infection Signs

Q47. Do you have knowledge of the signs of wound infection?

هل لديك معرفة بعلامات التهاب الجرح ؟

☒ Yes / نعم

☒ No / لا

Q48. Do you think saline solution works as an anti-inflammatory for wounds?

هل تعتقد ان المحلول الملحي يعمل كمضاد لالتهاب الجروح ؟

☒ Yes / نعم

☒ No / لا

Q49. One of the signs of wound infection is redness at and around the wound.

من علامات التهاب الجرح احمرار منطقة الجرح و ماحولها ؟

☒ Yes / نعم

☒ No / لا

Q50. One of the signs of wound infection is swelling at the wound site.

من علامات التهاب الجرح وجود انتفاخ في منطقة الجرح ؟

☒ Yes / نعم

☒ No / لا

Q51. One of the signs of wound infection is the presence of a foul odor.

من علامات التهاب الجرح وجود رائحة كريهه منه ؟

☒ Yes / نعم

☒ No / لا

Q52. One of the signs of wound infection is discharge of pus.

من علامات التهاب الجرح خروج صديد منه ؟

☒ Yes / نعم

☒ No / لا

A total knowledge score was calculated from 20 items (Table *10*), with each item coded 1 for the correct response and 0 otherwise (possible range, 0-20).

	Correct		Wrong	
	N	%	N	%
Do you think hands should be washed before touching a wound?	260	62.8%	154	37.2%
Do you think sterile tools should be used when touching a wound?	265	64%	149	36%
Do you think small and sharp objects inside a wound should be removed?	201	48.6%	213	51.4%
Do you think honey is a useful substance for wound care?	142	34.3%	272	65.7%
Do you think butter is a useful substance for wound care?	397	95.9%	17	4.1%
Do you think coffee is useful for controlling bleeding?	320	77.3%	94	22.7%
Do you think Vaseline is useful for reducing wound effects?	105	25.4%	309	74.6%
Do you think washing wounds with Zamzam water helps reduce wound healing time?	349	84.3%	65	15.7%
Do you think bathing delays wound healing?	292	70.5%	122	29.5%
What signs may appear on a wound that would require you to visit the emergency department?				
Large cut wound size	351	84.8%	63	15.2%
Continuous bleeding	363	87.7%	51	12.3%
Difficulty cleaning the wound	227	54.8%	187	45.2%
Presence of a foul odor from the wound	267	64.5%	147	35.5%
Do you think the health center is qualified to handle and clean wounds?	241	58.2%	173	41.8%
Do you think good nutrition is necessary for wound healing?	259	62.6%	155	37.4%
Do you think smoking can negatively affect wound healing?	216	52.2%	198	47.8%
One of the signs of wound infection is redness at and around the wound	247	59.7%	167	40.3%
One of the signs of wound infection is swelling at the wound site	254	61.4%	160	38.6%
One of the signs of wound infection is the presence of a foul odor	246	59.4%	168	40.6%
One of the signs of wound infection is discharge of pus	256	61.8%	158	38.2%

TABLE 10: Items included in the knowledge scale

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

Concept and design: Abdullah O. Allehyani, Abdelelah Abualfraj, Badr Alsahafi, Fatmah Rednah, Fay Salawati, Ruyuf Y. Altowairqi

Acquisition, analysis, or interpretation of data: Abdullah O. Allehyani, Abdelelah Abualfraj, Badr Alsahafi, Fatmah Rednah, Fay Salawati, Ruyuf Y. Altowairqi

Drafting of the manuscript: Abdullah O. Allehyani, Abdelelah Abualfraj, Badr Alsahafi, Fatmah Rednah, Fay Salawati, Ruyuf Y. Altowairqi

Critical review of the manuscript for important intellectual content: Abdullah O. Allehyani, Abdelelah Abualfraj, Badr Alsahafi, Fatmah Rednah, Fay Salawati, Ruyuf Y. Altowairqi

Disclosures

Human subjects: Informed consent for treatment and open access publication was obtained or waived by all participants in this study. King Abdullah International Medical Research Center (KAIMRC) issued approval

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