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Knowledge, Attitude, and Practice of Burn First Aid in Palestine: A Community-Based Study

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Abstract
Background: Burn injuries are a major cause of trauma, often leading to serious health, social, functional, and psychological complications. They account for a substantial proportion of hospitalizations, morbidity, and mortality. **Objective**: This study aimed to assess the levels of knowledge, attitudes, and practices related to burn first aid within the Palestinian community. **Method**: A cross-sectional descriptive study was conducted among 403 participants from the West Bank using an online questionnaire. The survey collected socio-demographic information and assessed knowledge, attitudes, and practices regarding burn first aid. Data were analyzed using SPSS version 27, employing independent t-tests and one-way ANOVA. **Results**: The majority of participants were female (76.9%), aged 20–29 years (52.9%), held a bachelor's degree (46.7%), and were unemployed (43.9%). About 59.8% demonstrated good knowledge of burn first aid, 59.6% had positive attitudes, and 92.3% recognized its importance. Regarding practices, 57.7% reported appropriate first aid responses based on basic principles. Statistically significant correlations were found among knowledge, attitude, and practice scores ($r = 0.38–0.47$, $p < 0.001$). Positive associations were also observed with age, education level, marital status, healthcare employment, and previous training in burn first aid ($p < 0.001$). **Conclusion**: The findings reveal moderate levels of knowledge, generally positive attitudes, and varied practices regarding burn first aid. These outcomes are influenced by demographic and educational factors. The presence of misconceptions and inconsistent practices highlight the need for culturally relevant education and standardized training programs to improve community response and outcomes in burn care.
Keywords: Burn first aid, Knowledge, Attitude, Practice, Caregivers

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1.Introduction

Burn injuries are a significant global public health issue, causing substantial morbidity and mortality. The World Health Organization (WHO) estimates around 11 million burn injuries occur annually, resulting in approximately 180,000 deaths (WHO, 2023). Beyond physical harm, burns have long-term psychological, social, and economic consequences, placing a heavy burden on healthcare systems, particularly in low- and middle-income countries (LMICs), where over 90% of burns occur due to limited resources and poor access to care (van Niekerk, 2022).

Burns are complex injuries that often require prolonged hospitalization, surgeries, and rehabilitation. They can result from thermal, chemical, electrical, or radiation sources, with thermal burns being the most common (Żwierełło et al., 2023). Complications such as infection, sepsis, and multi-organ failure further contribute to poor outcomes. According to the American Burn Association, the mortality rates from burns are significantly higher in LMICs, where child fatalities are 7–11 times greater than in high-income countries (Romanowski et al., 2020).

In the Occupied Palestinian Territory (OPT), burn injuries are an increasing concern. The Palestinian Ministry of Health reports approximately 7,600 burns annually in the West Bank and 8,685 in Gaza, with children comprising 65% of cases. A study at Shifa Hospital found that nearly two-thirds of burn patients were under the age of 10 especially among children (Abu Ibaid et al., 2022).

1.1 Problem Statement

In the Occupied Palestinian Territory (OPT), thousands of burn injuries occur annually, disproportionately affecting children and vulnerable populations (Abu Ibaid et al., 2022). Despite the critical importance of first aid in minimizing burn severity and complications, many individuals lack the knowledge or confidence to apply appropriate measures. Studies have consistently shown that first aid, when administered promptly and correctly, can significantly improve burn outcomes (Holbert et al., 2024). However, in Palestine, harmful traditional practices and misconceptions—such as the use of toothpaste or butter on burns—are still prevalent (Abu Ibaid et al., 2022). Furthermore, limited educational programs and a lack of standardized first aid training contribute to this problem. While several studies have assessed general first aid knowledge among specific groups such as teachers, drivers, and healthcare providers, few have focused exclusively on burn-related first aid knowledge, attitudes, and practices at the community level. For example, a study among schoolteachers in southern Hebron found a moderate level of general first aid knowledge 74% (Amro & Qtait, 2017). Similarly, significant improvements in trauma, Burn and CPR-related knowledge were observed after educational programs for teachers and healthcare workers, emphasizing the effectiveness of training interventions (Alwawi et al., 2019; Amro et al., 2022). Another study among Palestinian taxi drivers revealed that only 57.4% had adequate first aid knowledge, with a positive correlation between knowledge and practice ($r = 0.230$, $p = 0.001$) (Salman et al., 2024). These findings highlight the need for targeted community-level education in burn first aid, especially within the broader Palestinian community.

1.2 Significance of the Study

This study addresses a vital gap in public health by focusing on the KAP regarding burn first aid in the Palestinian community. Given the high incidence of burns particularly among children—and the widespread use of incorrect first aid methods, this research is crucial for identifying educational deficits and cultural misconceptions that contribute to poor outcomes. Building on prior evidence that structured educational programs and linked the theory with practice significantly improve first aid knowledge and confidence (Alwawi et al., 2019; Amro et al., 2022; Amro et al., 2017). This study seeks to provide evidence-based insights that can inform policy, curriculum development, and community outreach strategies In Palestine. It also aims to identify priority target groups for intervention. Its findings will be instrumental for public health authorities and educational institutions working to reduce burn-related morbidity and mortality through effective, culturally appropriate training and awareness campaigns. Ultimately, the study contributes to enhancing community resilience, emergency preparedness, and health literacy key pillars in reducing the human and economic burden of burn injuries.

1.3. Aim of the study

This study aims to assess the level of KAP related to burn first aid among the Palestinian community and to examine the influence of sociodemographic factors on these components.

2. Methodology

2.1 Study Design

A cross-sectional quantitative research design was employed to assess the level of KAP regarding burn first aid among the Palestinian community.

2.2 Study Setting and Population

The study was conducted across the northern, central, and southern regions of the West Bank in Palestine, providing geographic representation of the population. The target population comprised Palestinian residents aged 18 years and older living in the West Bank, Palestine.

2.3 Sampling Method and Sample Size

A non-probability convenience sampling technique was used to recruit 403 participants. The sample size was calculated using the OpenEpi (Dean, 2010), based on a population size exceeding 1,000, a 95% confidence level, and 5% margin of error.

2.4 Inclusion and Exclusion Criteria

Inclusion criteria such as Palestinian residents of the West Bank (North, Central, South) aged 18 years and older. The exclusion criteria such as a resident of Gaza or individuals under 18 years of age residing in the West Bank due to difficulties in obtaining the sample as a result of the war.

2.5 Data Collection Tool

Data were collected using a structured, online questionnaire developed based on previous literature (Gete, Mitiku, Wudineh, Endeshaw, et al., 2022). The questionnaire was translated into Arabic using back-to-back translation and distributed electronically via Google Forms through social media platforms and email.
The questionnaire consisted of two sections:

- **Section I: Demographic Information** including age, gender, marital status, region of residence, educational level, employment status, income, housing conditions, presence of children under 18, history of burn incidents, prior participation in burn first aid training, and sources of information.
- **Section II: KAP Toward Burn First Aid** comprising 42 items: 10 assessing knowledge, 10 assessing attitudes, and 23 assessing practices. Knowledge and attitude items were measured using a 3-point Likert scale (1 = Disagree, 2 = Uncertain, 3 = Agree). Knowledge and attitude responses were later recoded into "1=correct or positive" and "0=incorrect or negative" categories. Practice consists of 22 items evaluated actual behaviors in burn-related scenarios, and "1 point for adequate practice and 0 point for inadequate practice. Regarding scoring and Cut-Off Points, for knowledge, attitude and practice, the median is considered as a cut off point as follows; for knowledge and attitude, ≥5 points was classified as "good"; <5 as "poor". While practice as follow; ≥12 points was classified as "adequate"; <12 as "inadequate".

2.6 Validity and Reliability

The questionnaire was reviewed by three experts in scientific research to assess its face validity, focusing on its applicability, readability, and feasibility. Cronbach's alpha was computed to evaluate the internal consistency reliability of the whole questionnaire, yielding the following results for the three scales as shown in Table 1.

Table 1
Reliability of the KAP

Variable	n	Cronbach's Alpha
Knowledge	10	0.77
Attitude	10	0.70
Practice	22	0.79

2.7 Pilot study

Pilot research was done prior to the primary data collection among 30 participants excluded from the main study population. The main objective was to evaluate the clarity of the questionnaire items, ascertain the average completion time, and verify the relevance and understanding of the tools within the local context. Minor tweaks to phrasing and layout were made based on input from pilot participants to increase clarity, and to estimate the time required to complete the questionnaire was 18 minutes.

2.8 Data collection

Data were gathered via a standardized, self-administered online questionnaire developed through Google Forms. This strategy was selected to enable participation in a secure, accessible, and time-efficient manner, particularly given the volatile sociopolitical circumstances in Palestine.

The survey link was sent via professional WhatsApp groups and Facebook groups utilized by population. The Google Form was set to permit only one answer per email account to prevent repeated submissions. A compulsory informed consent statement was incorporated on the initial page of the survey. Participants were informed of the study's objective, the voluntary aspect of their involvement, and the confidentiality of their replies. Advancing to the questionnaire subsequent to reviewing the consent statement was seen evidence of their permission to participate. Finalized survey data were securely kept in encrypted files accessible just to the lead investigators. The research staff oversaw the submission process to guarantee response quality, monitor completion rates, and address participant inquiries swiftly as necessary.

2.9 Statistical Analysis

The collected data were analyzed by the Statistical Package for Social Sciences (SPSS) Version (27). Data analysis of descriptive and inferential statistics was conducted. Regarding descriptive statistics, frequency, percentages, mean score and Standard Deviation (SD) were used to describe the study variables. Regarding

inferential statistics, independent t test and One Way ANOVA were used to assess the differences between variables after assessed the normality of the scores using Kolmogorov-Smirnov and Shapiro-Wilk test ($p \geq 0.05$).

2,10 Ethical considerations

Ethical principles were strictly adhered to in order to protect participants' rights and ensure the integrity of the study. Informed consent was obtained from all participants, ensuring participants were fully informed about the purpose. Participants were aware of their right to voluntarily participate and withdraw at any time without any repercussions. Confidentiality and privacy were maintained by anonymizing all data and securely storing it to prevent unauthorized access.

3. Results

3.1 Demographic variables

The demographic characteristics of the participants (n=403) revealed a diverse composition. The majority of participants were aged 20–29 years (52.9%), followed by those aged 30–39 years (17.6%), under 20 years (15.4%), and over 39 years (14.1%). Females constituted 76.9% of the sample, with males making up 23.1%. Regarding marital status, over half (51.1%) were married, 45.7% were single, and smaller proportions were widowed (0.7%) or divorced (2.5%). Most participants resided in the middle of the West Bank (70%), with fewer from the north (18.6%) and south (11.4%). Living environments included cities (46.9%), villages (44.4%), and campuses (8.7%).

Additionally, 69.7% had children or teenagers living at home, and 58.3% had personal or familial experiences with burns. However, only 25.3% had participated in prior burns first aid training. Sources of information about burns and first aid varied, with school/university being the most common (34.7%), followed by media (22.3%), friends/relatives (16.6%), books (8.9%), and other sources (17.5%). As seen in Table 2.

Table 2
Demographic variables of the participants (n=403)

Item		n	%
Age group	<20 years old	62	15.4%
	20-29 years old	213	52.9%
	30-39 years old	71	17.6%
	>39 years old	57	14.1%
Sex	Male	93	23.1%
	Female	310	76.9%
Marital Status	Single	184	45.7%
	Married	206	51.1%
	Widowed	3	0.7%
	Divorced	10	2.5%
Residence	North of West Bank	75	18.6%
	Middle of West Bank	282	70.0%
	South of West Bank	46	11.4%
Place of living	City	189	46.9%
	Village	179	44.4%
	Campus	35	8.7%
Educational Level	Primary	16	4.0%
	Secondary	75	18.5%
	Diploma	102	25.3%
	Bachelor's degree	188	46.7%
	Master/ doctoral degree	22	5.5%
Occupation	Healthcare Worker	81	20.1%
	Non-Healthcare	145	36.0%
	Unemployed	177	43.9%
Monthly Income	Less than 2000 NIS	172	42.7%
	2000 – 3000 NIS	92	22.8%
	3001 – 4000 NIS	60	14.8%
	>4000 NIS	79	19.7%
Housing Status	Property	349	86.6%
	Rent	54	13.4%

Are there children/teenagers (under 18 years) living at home with you?	Yes	281	69.7%
	No	122	30.3%
Have you had any experience of burn to self or a member of your family?	Yes	235	58.3%
	No	168	41.7%
Have you ever participated in a previous burns first aid training?	Yes	102	25.3%
	No	301	74.7%
Source of Information about Burn and Its First Aid	Media	90	22.3%
	School/University	140	34.7%
	Friends/Relatives	67	16.6%
	Books	36	8.9%
	Other	70	17.5%

3.2 Level of Knowledge, Attitude and Practice Toward Burn Among Participants

Among the 403 participants, 59.8% demonstrated a good level of knowledge regarding burn first aid, while 40.2% had poor knowledge. In terms of attitude, 59.6% exhibited a positive, whereas 40.4% showed a negative attitude. Regarding practice, 58.8% reported good practices related to burn first aid, while 41.2% demonstrated poor practices. As seen in Table 3.

Table 3
Level of Knowledge, Attitude and Practice Toward Burn Among Participants (n=403)

KAP		n	%
level of Knowledge	Poor	162	40.2%
	Good	241	59.8%
level of Attitude	Negative	163	40.4%
	Positive	240	59.6%
level of Practice	Poor	166	41.2%
	Good	237	58.8%

3.3 Frequency and percentages of knowledge items toward burn first aid

Participants showed moderate knowledge of burn first aid, with an average correct response rate of 69.5%. Most recognized key concepts such as the definition of burn first aid (90.1%) and the vulnerability of children (72.2%), but knowledge on proper burn management steps and misconceptions about traditional remedies and treatment varied, highlighting the need for targeted education. As seen in Table 4.

Table 4
Frequency and percentages of correct and incorrect answer toward burn (n=403)

Item		n	%
1. Burn first aid is the immediate care given for a person who sustained a burn injury before the victim arrives at a health institution. **T**	Incorrect	40	9.9%
	Correct	363	90.1%
2. Burn can lead to permanent injuries? **T**	Incorrect	32	7.9%
	Correct	371	92.1%
3. Children are the most vulnerable family members for burns? **T**	Incorrect	112	27.8%
	Correct	291	72.2%
4. Washing the burned area with room temperature water is the first correct step in case of burn injuries? **T**	Incorrect	165	40.9%
	Correct	238	59.1%
5. Applying first aid medicine at home over a burned area leads to a better outcome? **T**	Incorrect	139	34.5%
	Correct	264	65.5%
6. In case of burn injury, is it beneficial to use antibiotics in management? **T**	Incorrect	152	37.7%
	Correct	251	62.3%
7. In case of burn injury, covering the burned area with clean cloth	Incorrect	151	37.5%

	before heading to the hospital can decrease the risk of infection? **T**	Correct	252	62.5%
8.	All burn injuries must be treated in the hospital? **F**	Incorrect	191	47.4%
		Correct	212	52.6%
9.	Never apply traditional remedies to the burn before **T** going to the health facility (e.g., "Dough, toothpaste, oil, coffee powder, etc.") as first aid for burn wounds?	Incorrect	101	25.1%
		Correct	302	74.9%
10.	In case of flame burn, stop, drop, and roll. Do not run. **T**	Incorrect	146	36.2%
		Correct	257	63.8%
Average of correct and incorrect answer (10 items)		**Incorrect**	**30.49%**	
		Correct	**69.51%**	

T: True, F: False

3.4 Frequency and Percentages of Attitude Toward Burn Among Participants

Participants showed generally positive attitudes toward burn first aid, with 75% of responses reflecting favorable views. Most supported formal training (94.0%) and recognized its importance (92.3%), while 90.8% believed it should be mandatory for all. However, 69.0% still believed home remedies can reduce pain and infection, and only 51.1% agreed that substances like dough or toothpaste delay healing. Additionally, 71.2% acknowledged that burn injuries are preventable. As seen in Table 5.

Table 5

Frequency and percentages of attitude toward burn among participants (n=403)

Item			**n**	**%**
1.	Home remedies can reduce pain and infection.	Negative	125	31.0%
		Positive	278	69.0%
2.	Do you think that applying water is the most commonly recommended burn first aid measure?	Negative	156	38.7%
		Positive	247	61.3%
3.	Do you think that applying dough, oil, mud, and toothpaste, etc., on the wound delays the healing process?	Negative	197	48.9%
		Positive	206	51.1%
4.	Do you think that it is important for you to learn burn first aid?	Negative	31	7.7%
		Positive	372	92.3%
5.	Do you think that burns can cause bad scars?	Negative	29	7.2%
		Positive	374	92.8%
6.	Do you think that burn first aid is a basic skill that everyone has to know?	Negative	31	7.7%
		Positive	372	92.3%
7.	If the Ministry of Health gives nationwide burn first aid training for all, do you think that it is useful?	Negative	24	6.0%
		Positive	379	94.0%
8.	Burn first aid training is mandatory not only for health professionals but also for everyone.	Negative	37	9.2%
		Positive	366	90.8%
9.	Most burn injuries are preventable.	Negative	116	28.8%
		Positive	287	71.2%
10.	Do you think that applying traditional remedies is good for burn care before going to the health facility?	Negative	259	64.3%
		Positive	144	35.7%
Average of negative and positive responses (10 items)		**Negative**	**25%**	
		Positive	**75%**	

3.5 Frequency and Percentages of the Practice Items Toward Burn First Aid

Participants demonstrated mixed burn first aid practices. While 57.7% showed good practice, gaps remain—only 34.2% applied cold water for the recommended duration, and some still used harmful remedies like toothpaste (22.6%). Most correctly avoided electrical contact (95.8%) and used cold compresses (74.7%), indicating a need for focused education to address misconceptions. As seen in Table 6.

Table 6

Frequency and percentages of the practice items toward burn first aid (n=403)

Item			n	%
1.	If a family member received a small/minor burn, where would you take them quickly for treatment?	Herbalist/traditional healer	93	23.1%
		Pharmacy	64	15.9%
		Health post/clinic	187	46.4%
		Hospital	59	14.6%
2.	If a family member received a large/major burn, where would you take them quickly for treatment?	Herbalist/traditional healer	32	7.9%
		Health post/clinic	32	7.9%
		Hospital	339	84.1%
3.	In case of a burn injury, have you ever applied cold?	**Yes**	314	77.9%
		No	89	22.1%
	water?			
4.	Applying water duration	Less than 5 min	117	29.0%
		5-10 min	138	34.2%
		Up to 20 min	59	14.6%
		Do not know	89	22.1%
5.	In case of burn injury, have you removed clothing or accessories from the injured area?	**Yes**	337	83.6%
		No	66	16.4%
6.	In case of burn injury, if your clothes were caught on fire, you should roll on the ground.	**True**	342	84.9%
		False	61	15.1%
7.	In case of electrical burn injury, I should not touch the injured person if he/she is still in contact with the electrical current.	**True**	386	95.8%
		False	17	4.2%
8.	In case of electrical burn injury, the first action is to turn off the source of electricity if possible.	**True**	386	95.8%
		False	17	4.2%
9.	In case of burn injury, picking blisters is an incorrect action.	**True**	356	88.3%
		False	47	11.7%
10.	What would you do if you spill hot liquid on your (or your family member's) arm?	**Apply cold water**	274	68.0%
		Others	129	32.0%
11.	What would you do if your clothing caught fire?	**Stop, drop, and roll**	262	65.1%
		Smother with cloth	21	5.2%
		Jump in water	58	14.4%
		Run	3	0.7%
		Take off clothing	59	14.6%
12.	What traditional substance did you use when the patient you are caring for sustained a burn injury?	Yes	91	22.6%
		No	312	77.4%
	Toothpaste:			
13.	What traditional substance did you use when the patient you are caring for sustained a burn injury?	Yes	59	14.6%
		No	344	85.4%
	Oil/ Olive Oil:			
14.	What traditional substance did you use when the patient you are caring for sustained a burn injury?	Yes	51	12.7%
		No	352	87.3%
	Coffee Powder:			
15.	What traditional substance did you use when the patient you are caring for sustained a burn injury?	Yes	110	27.3%
		No	293	72.7%
	White Flour:			
16.	What traditional substance did you use when the patient you are caring for sustained a burn injury?	Yes	103	25.6%
		No	300	74.4%
	Milk/Yogurt:			
17.	What traditional substance did you use when the patient you are caring for sustained a burn injury?	Yes	56	13.9%
		No	347	86.1%
	Egg White:			
18.	What traditional substance did you use when the patient you are	Yes	135	33.5%
		No	268	66.5%

	caring for sustained a burn injury?			
	Honey:			
19.	What traditional substance did you use when the patient you are caring for sustained a burn injury?	**Yes**	301	74.7%
		No	102	25.3%
	Cold Compress:			
20.	What traditional substance did you use when the patient you are caring for sustained a burn injury?	Yes	66	16.4%
		No	337	83.6%
	Potato:			
21.	What traditional substance did you use when the patient you are caring for sustained a burn injury?	Yes	38	9.4%
		No	365	90.6%
	Butter:			
22.	What traditional substance did you use when the patient you are caring for sustained a burn injury?	Yes	198	49.1%
		No	205	50.9%
	None:			
Average of good and poor practice (22 items)		**Poor**	**42.30%**	
		Good	**57.7%**	

Bold is good practice answer

3.6 Association factors between study variables

The correlation analysis revealed several significant relationships among age, education, and the KAP (knowledge, attitude, and practice) domains regarding burn first aid. A weak positive correlation was found between age and knowledge ($r = .176$, $p < .001$), indicating a slight increase in knowledge with age. Similarly, age showed a weak positive correlation with both attitude ($r = .134$, $p = .007$) and practice ($r = .154$, $p = .002$), suggesting that older participants tended to have slightly better attitudes and practices. Education level was weakly correlated with practice ($r = .100$, $p = .045$), implying a minor improvement in practice with higher educational attainment. Notably, moderate positive correlations were observed between knowledge and attitude ($r = .476$, $p < .001$), knowledge and practice ($r = .381$, $p < .001$), and attitude and practice ($r = .460$, $p < .001$), highlighting that increased knowledge and more positive attitudes were associated with better first aid practices for burns. As seen in Table 7.

Table 7

Pearson correlation between study variables (n=403)

		Age	Residency	Level of education	Monthly income	knowledge	Attitude	Practice
Age	r	--						
Residency	r	.059	--					
	p-value	.236						
Level of education	r	-.132	.047	--				
	p-value	.008	.344					
Monthly income	r	.147	-.052	.132	--			
	p-value	.003	.296	.008				
knowledge	r	.176	-.019	.066	-.023	--		
	p-value	<.001*	.699	.187	.641			
Attitude	r	.134	-.037	.056	-.002	.476	--	
	p-value	.007*	.455	.260	.972	<.001*		
Practice	r	.154	-.056	.100	.074	.381	.460	--
	p-value	.002*	.262	.045*	.136	<.001*	<.001*	

R: Pearson Correlation
**Significant at p=≤0.05*

3.7 Differences between demographic variables in terms of both knowledge, attitude and practice scores

The analysis of demographic differences in knowledge, attitude, and practice scores among participants (n=403) revealed significant variations across several variables. Participants who had attended a previous burn course demonstrated higher knowledge (mean = 7.29, $p = .039$) and attitude scores (mean = 7.83, $p = .014$) compared to those who had not. Marital status also showed significant differences, with married participants scoring higher in knowledge (mean = 7.29, $p = .002$*), attitude (mean = 7.71, $p = .005$*), and practice (mean =

17.02, p = .013) compared to singles, widowed, and divorced individuals. Regarding place of living, participants residing in cities had higher knowledge (mean = 7.22, p = .016) and practice scores (mean = 16.97, p = .013) compared to those in villages or on campuses. Occupation was another influential factor, with healthcare workers scoring significantly higher in knowledge (mean = 7.72, p = .001) and attitude (mean = 7.90, p = .050) compared to non-healthcare workers and unemployed participants. As seen in Table 8.

Table 8

Differences between demographic variables in terms of both knowledge, attitude and practice scores (only significant values) (n=403)

Independent variables		Knowledge			Attitude			Practice		
		Mean	SD	P-value	Mean	SD	P-value	Mean	SD	P-value
Previous Burn course	Yes	7.29	1.90	.039*	7.83	1.50	.014*	-	-	-
	No	6.83	2.02		7.40	1.66		-	-	
Marital status	Single	6.58	2.06	.002*	7.32	1.86	.005*	16.03	3.51	.013*
	Married	7.29	1.90		7.71	1.35		17.02	2.82	
	Widowed	5.33	1.15		5.00	2.00		14.33	3.51	
	Divorced	7.40	1.65		7.50	1.58		16.70	3.59	
Place of living	City	7.22	2.06	.016*	-	-		16.97	3.28	.013*
	Village	6.79	1.91		-	-		16.30	3.02	
	Campus	6.31	1.91		-	-		15.43	3.45	
Occupations	Healthcare Worker	7.72	1.90	.001*	7.90	1.55	.050*-	-	-	
	Non-Healthcare	6.74	1.91		7.39	1.72		-	-	-
	Unemployed	6.77	2.04		7.42	1.57		-	-	

Independent t test and One Way ANOVA test
**Significant at p=≤0.05*

4. Discussion

The findings of this study indicated that 59.8% of participants demonstrated good knowledge of burn first aid, while 40.2% had poor knowledge. This reflects a moderate level of awareness within the Palestinian community. The results are consistent with previous research conducted in Palestine, where 66.2% of caregivers showed inadequate knowledge of burn first aid (Gete, Mitiku, Wudineh, Endeshaw, et al., 2022). Similar trends have been observed in Saudi Arabia, where only 41% of caregivers reported applying appropriate first aid for burns (Alomar et al., 2016). The alignment may be attributed to similar cultural backgrounds, health literacy levels, and limited access to structured first aid education in these regions. Moreover, persistent reliance on traditional knowledge in Middle Eastern societies may also limit the adoption of evidence-based practices.

Regarding attitudes, 59.6% of respondents expressed positive attitudes toward burn first aid, while 40.4% held negative attitudes. This finding aligns with a study from Ethiopia, where 73.8% of caregivers showed a favorable attitude toward burn management (Gete, Mitiku, Wudineh, & Endeshaw, 2022). Positive attitudes are closely tied to readiness for learning and adopting correct behaviors, particularly in emergency scenarios. The lower percentage of positive attitudes in the Palestinian sample may reflect ongoing cultural beliefs in ineffective home remedies and a lack of national campaigns or formal training opportunities promoting burn first aid awareness. In contrast, regions with higher scores may have benefited from broader public health outreach or school-based education programs.

In terms of practice, 58.8% of participants reported good first aid practices for burns, whereas 41.2% exhibited poor practices. Although most participants demonstrated awareness of appropriate responses, such as using cold water and removing clothing from the burn site, a considerable number still reported using traditional remedies like toothpaste or oil, similar to findings in Saudi Arabia (Al Dhafiri et al., 2022). The consistency in results may reflect a common regional challenge where cultural practices and misinformation undermine the

application of accurate knowledge. Even when people are aware of correct practices, ingrained beliefs and a lack of hands-on training may lead to suboptimal real-world actions.

The moderate levels of knowledge, attitudes, and practices observed in this study align with regional trends and emphasize the need for culturally tailored interventions. Public education initiatives, policy-driven school curricula, and wide-reaching awareness campaigns are necessary to address misconceptions and enhance burn first aid preparedness in the Palestinian community.

The findings of this study revealed significant associations between demographic factors and participants' KAP regarding burn first aid. Participants who had previously attended a burn first aid course exhibited significantly higher knowledge and attitude scores, supporting prior research indicating that structured training improves both understanding and preparedness for burn emergencies (Alkhalifah et al., 2023; Alomar et al., 2016) . Similarly, marital status was associated with better KAP scores, with married individuals reporting higher knowledge ($p = .002$), attitude ($p = .005$), and practice ($p = .013$) levels than their single or widowed counterparts. This may be attributed to the caregiving responsibilities commonly assumed by married individuals, fostering greater attentiveness to health-related matters. Urban residents also scored significantly higher in knowledge ($p = .016$) and practice ($p = .013$) than those in rural areas or student housing, likely due to better access to health information and services—an association supported by prior findings in low- and middle-income settings (Gete, Mitiku, Wudineh, & Endeshaw, 2022). Occupational status further influenced outcomes, with healthcare workers showing significantly higher knowledge ($p = .001$) and attitude scores ($p = .050$), consistent with evidence that health professionals' benefit from regular exposure to emergency care protocols (Al Dhafiri et al., 2022).

5. Conclusion

The study revealed that a majority of participants demonstrated moderate to good levels of knowledge (59.8%), attitude (59.6%), and practice (58.8%) regarding burn first aid. However, a substantial portion still exhibited poor knowledge (40.2%) and inadequate practices (41.2%), indicating persistent gaps, particularly in the practical application of first aid. The correlation analysis further emphasized that older age and higher education were positively associated with improved KAP scores. Additionally, moderate correlations between knowledge, attitude, and practice suggest that enhancing one domain may positively influence the others. These findings emphasize the need for comprehensive, culturally tailored education strategies that not only convey factual knowledge but also foster positive attitudes and encourage proper first aid behaviors.

6. Recommendations

Based on the results, it is recommended to implement targeted, community based educational programs focusing on burn first aid, especially for younger individuals and those with lower educational backgrounds. Training should emphasize practical skills, correct response techniques, and the dangers of traditional but ineffective remedies. Incorporating burn first aid modules into school curricula, public awareness campaigns, and mandatory workplace training particularly for non-healthcare workers could significantly improve preparedness. Furthermore, using digital platforms and social media to disseminate accurate and culturally appropriate information may enhance community engagement and promote safer responses to burn injuries.

7. Limitations

This study has several limitations that should be acknowledged. First, the use of a cross-sectional design limits the ability to establish causal relationships between demographic factors and levels of KAP regarding burn first aid. Second, the reliance on self-reported data may introduce social desirability and recall biases, potentially leading participants to overestimate their knowledge or report ideal practices rather than actual behavior. Third, the convenience sampling method may have introduced selection bias, as individuals with internet access and interest in health-related topics may have been more likely to participate, limiting the generalizability of the findings to the broader Palestinian population.

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10. Consent for publication

Not applicable to this study.

11. Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

12. Competing interests

The authors declare that they have no competing interests

13. References

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