

First Aid: Level of Knowledge of Relatives in Emergencies in Burn

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Abstract

First aid is the initial assistance or treatment given at the site of accident to someone who is injured or suddenly taken ill, before the arrival of ambulance. Objective: To assess the general knowledge, of relative for burn first aid, and to know the way of use to first aid for burns., and to evaluate the needs of society for program first aid Method: Prospective study, We undertook a prospective study of all patient who admitted to burn unite as Acute burn in Hebron government hospital from 1 august 2017 to 1 august 2018 with burns any percent. Result: A total of 150 participants comprising 23.3 males and 76.7 females with age of participant under 40 years were included. The majority (58%) were educated up to school or higher. most sours of information about first aid from doctors and nurses, the second source internet and TV and radio. most of participants mot take first aid course previously. 66% of participants use "cool running water in the first aid, 66.7% of participants not correct answer about Duration of cooling. 71% of participants answer incorrect answer how to deal with Scenario of fire burn wound, most of participants use Using traditional therapy for first aid, and Use toothpaste or tomato or other things. Conclusion: people need more training in the first aid especially in burn first aid is a simple, cheap, and accessible means of managing burns initially.

Keywords

Knowledge, First-Aid, Burns

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1. Introduction

A burn is known as an wound to the skin or other organic tissue caused by heating trauma, it occurs when some or all of the cells in the skin or other tissues are destroyed by hot liquids (scalds), hot solids (contact burns), or flames (flame burns). Injuries to the skin or other organic tissue due to radiation, radioactivity, electricity, friction or contact with chemicals are also considered as burns.

The life of an individual is influenced by various factors including the condition of health, education, occupation, and socioeconomic status. Among the various factors, the condition of health influences the life of an individual to a greater extent [1].

First management, as first aid in the field in medical center a very important step in the burn [2]. A suitable and simple treatment, that is correctly use, can cause less in the depth of burn, pain and complications burn later [3].

Studies have shown the first aid measures have a important impact on decreasing morbidity-related to costs, and tissue effect, leading to a reducing in the need for surgical intervention [4].

The first aid, stopping the burn process, and complication the immediate uses of running cold tap water for a time of 20 min, removing clothing and jewelry, and covering the wound with a sterile dressing would all positively affect the outcome of burns and cold water that has been shown to improve outcome in terms of healing and final cosmetic result should

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be from 2–15°C and applied immediately for the same time frame [5].

The recommendations for the first aid treatment of burn injuries have previously been based upon conflicting published studies and as a result the recommendations have been vague with respect to optimal first aid treatment modality, temperature, duration and delay after which treatment is still effective, the public have also continued to use treatments such as ice and alternative therapies, however there is little evidence to support their use [6]. Recently there have been several studies conducted by burn researchers in Australia which have enabled the recommendations to be clarified, first aid should consist of cool running water (2–15°C), applied for 20 minutes duration, as soon as possible but for up to 3 hours after the burn injury has occurred. Ice should not be used and alternative therapies should only be used to relieve pain as an adjunct to cold water treatment, optimal first aid treatment significantly reduces tissue damage, hastens wound re-epithelialization and reduces scarring and should be promoted widely to the public.

First aid knowledge of high risk workers was significant limited including theoretical and practical scenario for burns accidents [7].

Study to describe the epidemiology and outcomes of burn patients in a major burn center in south of west bank between 2016 and 2017. Our findings showed that in the future, children under 14 years old, females, incidents occurring in winter, and scald burns should receive more attention to prevent burn injuries. Furthermore, individualized burn prevention and treatment strategies based on risk factors such as full-thickness burns, burns with a larger TBSA, older age, higher operation number and better outcomes should be adopted. Since most burn injuries are domestic, preventive and educational programs should be set focusing on mothers and housewives to emphasize the importance of safety and carefulness [8], [16]. The mortality rate less than 1% that's related high quality and standardizes care provided to our patients. This finding could be attributed to early surgical intervention and skin grafting, modern topical and systemic antibiotics, nursing care. Furthermore, immediate fluid and electrolyte replacement, nutritional support and adherence to infection prevention and standard precautions [16].

A cross-sectional study was carried out among schoolteachers in the southern part of Hebron, simple random sampling to schoolteachers sampling, the total mean score knowledge of general first aid is 71.41%, and in burn 79% [8].

Pre hospital first aid: The first aid and pre-hospital care and emergencies care started on scene, at the site of incident.

Emergency care should therefore, includes first aid, pre-hospital and route care before actual arrival to emergency department. The first aid is emergency care or treatment given before medical staff can be obtained, and it serves to provide analgesia and halt the progression of burn.

Historically, first aid in burns treatment ranges from the use of natural to traditional treatment over the centuries, to more recent recommendation from regulatory bodies based on clinical studies. The concept of 'first aid' was believed to be initially described by the Prussian surgeon (Surgeon General) Friedrich Von Esmarch (AD 1823–1908). The use of tab water as first aid for burn has the greatest volume of supporting literature in comparison to other therapies, and it has been a popular treatment throughout history.. Burns related deaths show great regional variability. Most of the deaths occur in poorer regions of the world among the [9]. WHO (world health organization) regions of Africa and South East Asia and the low income and middle-income countries of the eastern Mediterranean region

A survey in India found that only 22.8% of patients had received appropriate first aid for their burns. The remainder had either received no first aid or else inappropriate treatment such as raw eggs, toothpaste, mashed potato or oil being rubbed into the burn. Education on the effect of immediate application of cool water to burns should be promoted widely as an affective first aid treatment.

Through work in burn, unite in Hebron hospital many patient use different ways to first aid to burn some time use toothbrush, other use tomato and use wheat.

2. Objective of the Study

1. To know the way of use to first aid for burns.
2. To evaluate the needs of society for program first aid.

3. Method

A cross-sectional study was conducted in main governmental hospital contain burn unite south of Palestine during the one year January 2018 to 31 December 2018 with burns any percent A representative sample of Palestinian parents who live in west bank and came to family emergency department in hospital was included.

3.1. Survey Instrument & Pilot Study

All relative of patient completed a self-administered questionnaire in Arabic language. However, the questionnaire measured the knowledge of first aid amongst relative to know to deal burn patient. The test-retest reliability of the questionnaire was determined in a pilot

study among 10 relative who was excluded from the main study. The internal consistency of the questionnaire was found to be (83.9) on Cronbach's alpha. Questionnaires distribution to the relative post admission to burn unite. Moreover, all participants in the pilot study indicated that the instrument was clear and they were able to finish the questionnaire within fifteen minutes. Based on the results of these participants, a few minor modifications were made to the original version of the questionnaire. In addition, the questionnaire consists of two parts. Part I is about demographic data including Previous training in first aid, age, marital status, level of education, teaching experience and sources of information about first aid.. Part II consists of items divided the way of first aid used with patient assess the knowledge of first aid.

3.2. Statistical Analyses

Data were entered and analyzed using the IBM Statistical Package of social science program (SPSS) version 23. Descriptive and inferential statistics were used to given a mean score of knowledge and also tested the hypothesis using independent t-test and one way ANOVA to determine if there is a significance difference between the knowledge of first aid and socio- demographic variables.

3.3. Ethical Considerations

Permissions from participants and ministry of health and hospital directors were acquired. Relative of patient was voluntary to participate in the study. In addition, the confidentiality of the relative of patient was completely secured by providing serial number for each participant at both collection and analysis process.

4. Result

Socio demographic variables: 150 relative of patient who

admitted to burn unite were selected and welcomed to fill out the self-administered questionnaire. Table 1 gives an information of the respondents including socio demographic variables and general characteristics. More than one third of participants were between 30 to 39 years of age and (30.7%) were between 40 to 49 years, (83.3%) were married, most of participants were carried Bachelor's degree. The most resources of information were nurses & Drs and TV about First Aid to the teachers with (32%) and (28.7) respectively. However, more than half were not have previous training of first aid.

Table 1. Demographic variable.

Variables	n=150	Percentages (%)
Age-group		
Between 20 to 29 years	36	24
Between 30 to 39 years	54	36
Between 40 to 49 years	46	30.7
More than 50 years	14	9.3
Gender		
Male	35	23.3
Female	115	76.7
Marital status		
Single	25	16.7
Married	125	83.3
Level of education		
School	40	26.7
Diploma	55	36.7
Bachelor's or more	55	36.6
Sources of information about burn		
University	21	14
TV and radio	43	28.7
Internet	29	19.3
Social media	5	3.3
Newspaper	4	2.7
Nurses and Drs	48	32
Previous training in First Aid		
Yes	63	42.0
No	87	58.0

Table 2. General Knowledge of First Aid.

Items	Correct answers				
	yes		No		
	N	%	N	%	
1	Using cool water	100	66.7	50	33.3
2	Time point of cool water application	50	33.3	100	66.7
3	Duration of cooling	55	36.7	95	63.3
4	Awareness of cooling in the winter	45	30	105	70
5	Burn wound coverage	92	61.3	58	38.7
6	Keep body warm	125	83.3	25	17.7
7	Using stair and lift during fire	80	53.3	70	46.7
8	Scenario of fire burn wound	79	52.7	71	47.3
9	Burn wound healing	67	44.7	83	55.3
10	Using traditional therapy for first aid	30	20	120	70
11	Use toothpaste or tomato or other things	40	26.7	110	73.3

General knowledge in first aid for people 51.3%, and most correct answer using of cooling water with percent 66.7%, and keep body warm with percent 83.3%, the lowest information about Awareness of cooling in the winter with percent 30%, and Time point of cool water application with percent 33.3.

Table 3. Comparison of total knowledge score between previous training in first aid, gender and marital status. Independent T test (n=155).

Variable	Group (n)	Mean (SD)	F statistic (df)	P value
Previous training in First Aid	Yes (63)	14.87(3.45)	.931(148)	.738
	No (87)	14.67(3.54)		
Gender	Male (59)	13.49(3.58)	5.873(148)	.001
	Female (91)	15.58(2.98)		
Marital status	Single (25)	14.36(4.15)	1.534(148)	.533
	Married (125)	14.84(3.36)		

Analysis of knowledge by socio-demographic characteristics of respondents: In comparing the total knowledge scores, there is a significant difference between Male and Female ($p = .001$), whereas, there is no significant difference between Previous training in first aid and Marital status, ($p = .738$) and ($p = .533$) respectively. The full results are shown in Table 3

However, there is a significant difference in Source of information about First Aid ($p = .014$) in favor of who have source from nurses & Drs. While, significant difference was not found between Age and Teaching experience, ($p = .749$) and ($p = .332$). The full results are shown in Table 4.

Table 4. Comparison of total knowledge score between Age, and sources of information about first aid. One-Way ANOVA test (n=150).

Variable	Group (n)	Mean (SD)	F statistic (df)	P value
Age	Between 20 to 29 years (36)	14.36(4.12)	.406(3)	.749
	Between 30 to 39 years (54)	14.92(3.33)		
	Between 40 to 49 years (46)	15.04(3.19)		
	More than 50 years (14)	14.21(3.53)		
Source of information about First Aid	University (21)	12.57(3.78)	2.983(5)	.014
	TV and radio (43)	15.48(3.05)		
	Internet (29)	14.03(3.64)		
	Social (5)	14.20(3.96)		
	Newspaper (4)	14.75(3.34)		
	Nurses and Dr's (48)	15.56(3.07)		

5. Discussion

Initial management of burns injury is paramount for the survival of burned victims. good first aid and initial treatment can significantly decrease the severity and improve the survival of burns injury, community awareness of first aid for burns injuries in the general population have significant role to ensure self-rescue and help each other to reduce the severity as well as mortality in case of accident especially in mass casualty incidences [10].

In this study, an attempt was made to explore the knowledge of relative of patient in first aid and what actually they practice at the incident requiring first aid. Rapid administration of first aid may help to decrease morbidity and mortality. Nurse s and physicians are not present at home in Palestine. Because rapid administration of first aid may minimize morbidity and mortality from injuries, teachers should be proficient in basic first aid skill.

The reasons that about 41% of the relative of patient in this study showed lack of knowledge regarding first aid of burn and have in previous training about first aid are most probably because of the absence of the training session, educational. posters or movies that illustrate how to give first aid and highlight its importance in dealing with injuries and accidents and the decrement in morbidity and mortality of these accidents after dealing with it using proper first aid

procedure.

The result of study general knowledge of schoolteacher good 51.3%, and accept with study of [11].

Investigated people with burns injuries and found that most of them attempted to go to the hospital as soon as possible [12]. Patients thought that the use of cool water would cause further harm to the burn wound. In addition, patients also believed in home remedies to reduce pain and infection would result better wound healing and better scar appearance. Few of them knew the methods to extinguish fire and how to escape from a fire.

Conducted a survey among students in Cambodia. It showed that 36% of participants had information about first aid for burns, 13% answered to use water to cool the burn surface, 7% knew how to stop the fire by rolling on the ground [13]... However, many students indicated they would use toothpaste (18%), immediately dress the burns wounds without cooling or just call for help and do nothing for burn wounds.

Reported the survey result in New South Wales, Australia that 82% would use water to cool the burn wound [14]... However, only 9% of participant would use water for 20 min, few answered the need to keep the body warm and the source of information was from books (42%) and from the internet (33%).

Evaluating knowledge of family members at the English

hospitals, [15]. Indicated that only 32% had sufficient knowledge of first aid for burns, socio-economical class, income and age had no significant relationship to the results of the survey.

6. Recommendation and Conclusion

First aid training should be compulsory for all people. This training should be periodically continued re-assessment and updated at regular intervals. It should be a part of school health advisors' continuous professional development.

Therefore, the need for more studies that address the promotion and protection of health in community is highlighted, thus enabling the transformation of people in relation to the knowledge of first aid actions in burn. This way, such training will make the people skilled to face and know how to act when facing situations that generate a greater complexity in their daily lives.

People need more training in the first aid especially in burn first aid is a simple, cheap, and accessible means of managing burns initially.

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