Assessment for Common Causes of Burn Injuries Patients at Al-Imam Al-Sadiq Hospital

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Abstract

Background: Burn injury remain one of the commonest forms of injury and account for a significant proportion of trauma cases in hospital emergencies worldwide. In the United States, up to 1.2 million people experience burn injuries each year.However, continue to cause devastating morbidity and significant mortality.

Methodology: A descriptive analytic study design is carried out to explore the common causes of burn injuries among patient which conducted at AL-Imam AL-Sadiq Hospital for the period (15/1/2020-15/3/2020). Non-probability Convenient sample consisted of (50) patients who admitted to the Burn Center is selected through the used probability sample approach.

Result: (50) subject who participated in this study their age ranged from (20-29) years old and constituted (40.0%) of the study sample. Concerning gender, most burned participants were female, which composed (78.0%) and lives in urban areas (60.0%) out total number. Twenty-eight percent were primary school graduated and sixty six were married they work as students.

Conclusion: common causes of burn as maximum incidence of burn injury seen in females in adult age group from (20-29) years old and lives in urban area. Most burned patients were primary school graduated and they were married and were burned by flame with moderate in severity.

Recommendation: Development of strategy for burn prevention by the Ministry of Health because it is better way that makes people more aware and cautious when dealing with risks and preventing as much as possible exposure to risks and injuries.

Key Words: *Assessment , Causes , Burn injury Patients.*

Introduction

A burn injury considered as sort of trauma to the skin, or another tissues, produced by heat, cold, electricity, chemicals, friction, or radiation.(1) predominnt of trauma produce by burns were due to heat from hot liquids, solids, or fire. Burns injury can also occur as result of self –harm or violenc between people.(2) Burns injury were the important causes of disability and mortality in the world.In developed countries, burn daeth rate was 2.1 per 100,000 adult age group. (3) Burn one of the 4th most common type of injury in the countries, followed road traffic accident, falls, and interpersonal violence. More than one million burn injuries incurred annually in the United States.(4). Burn injuries are responsible of a large number of deaths around the world, causing more than 5 million deaths each year.(5) annually, burn unite in the hospitals in the United States mange 500,000 victims with burns,of these 46% were caused by flame and cause about 3,500 death per year. (6) Burns still represent one of the most leading cause of death in middle and low-income countries and many of victims and their families suffered from physical, psychological and economic effects .(7) Cave records approximately more than 3,500 years ago commented on this type of injury and their treatment to this condition .(8) The earliest Egyptian documanted on mangement burns describes dressings

prepared with milk from mothers of baby boys[9] and the 1500 BCE Edwin Smith Papyrus describes treatments using honey and the salve of resin.[10]

Methodology

A descriptive study design is carried out to explore the common causes of burn injuries among patient which conducted at AL-Imam AL-Sadiq Hospital for the period (15/1/2020-15/3/2020). The study was conducted at Burn Center in AL-Imam AL-Sadiq Hospital (Turkish Hospital) is one of the governmental hospitals in Babylon Governorate. The hospital is affiliated with the Iraqi Ministry of Health.Non-probability Convenient sample consisted of (50) patients who admitted to the Burn Center is selected through the used probability sample approach.Study instrument is constructed through review of relevant literature as a tool of data collection that inclusive 3 parts : Part I: This part contains demographical data which include (age, gender, residency, level of education, marital status, and occupation).Part II: This part deals with causes of burn and composed of (6) items which include (thermal burns, chemical burns, electrical burns, inhalation burns, radiation burns, and another causes as alcohol & smoking).Part III: This part deals with patients records as a severity of burn pain measured based on (mild, moderate, and severe).The data is collected through the use of a observational and an interview with patients who attended the burn center. Patients records and their relative also used for two months were allocated to collect that sample.

Study Results

Table 1: Descriptive Statistic Demographic Variables

Variables	Rating	N=50	%
Age	<20 years	13	26.0
	20-29 years old	20	40.0
	30-39 years old	6	12.0
	40-49 years old	8	16.0
	50 and older	3	6.0
Gender	Male	11	22.0
	Female	39	78.0
Residency	Urban	30	60.0
	Rural	20	40.0
Education attainment	Illiterate	1	2.0
	Primary	14	28.0
	Intermediate	7	14.0
	Secondary	13	26.0
	Institute or College and above	15	30.0
Social State	Single	17	34.0
	Married	33	66.0
Occupation	Government employee	7	14.0
	Free work	6	12.0
	Retired	9	18.0
	Student	28	56.0

This table represents the descriptive statistics of personal information of the burned patients in term of frequencies and percentage. Out of (50) subject who participated in this study their age ranged from (20-29) years old and constituted (40.0%) of the study sample. Concerning gender, most burned participants were female, which composed (78.0%) and lives in urban areas (60.0%) out total number. Twenty-eight percent were primary school graduated and sixty six were married they work as students.

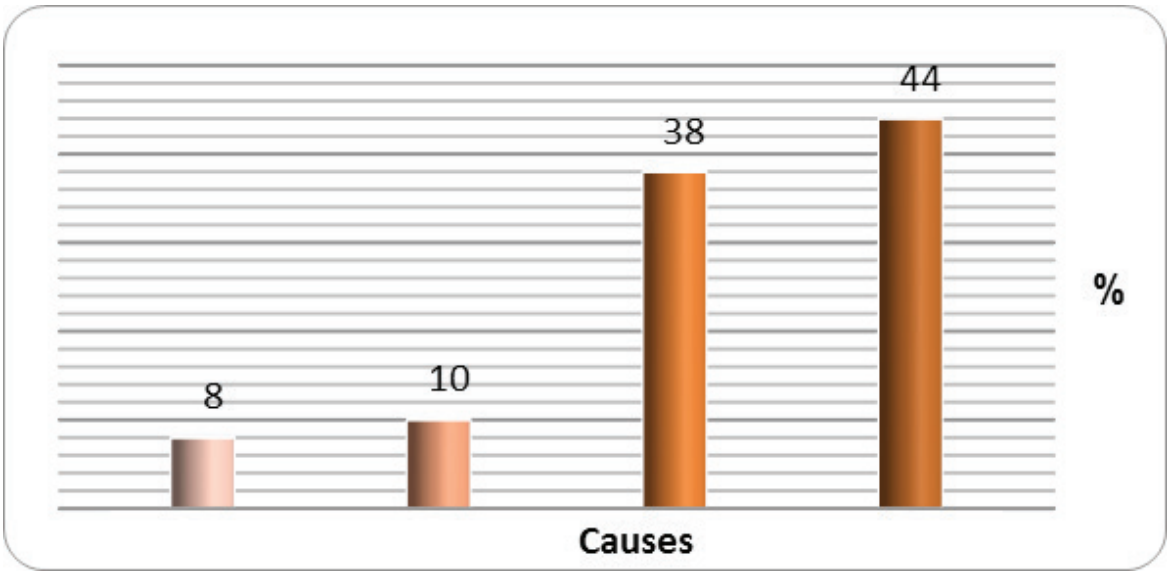

Figure 1: Descriptive Statistic Causes of Burn

This figure show that most causes of burn were flame in the rate of (44%) followed by scald and contact were (38% & 10%) respectively. Only small ration were electric current burn, which composed 8% out total 50 burned patients.

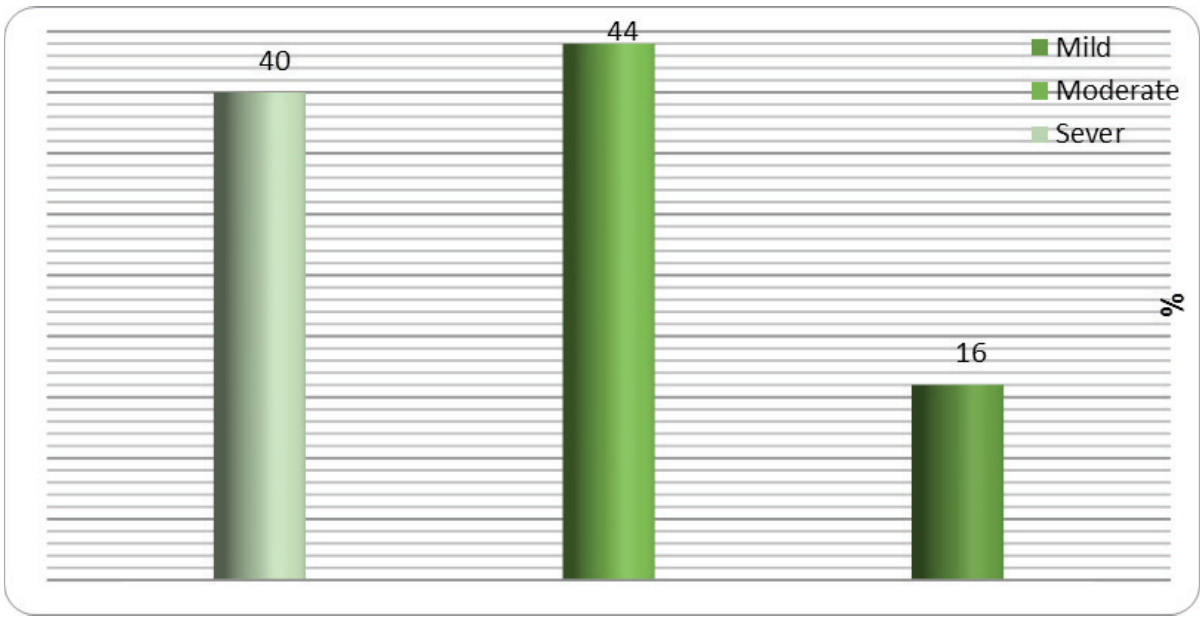

Figure 2: Descriptive Statistic the Severity of Burn

This figure show that most burned patients their severity were moderate to severe outcome.

Table 2: Inferential statistic relationship between causes of burn and their severity among patients

	Rating	Severity of Burn			Total	d.f	Sig.	
		Mild	Moderate	Sever				
Causes of Burn	Flame	2	7	13	22	6	$\chi^2 obs. = 16.955$ $\chi^2 crit. = 12.592$ $P\text{-value}=0.009$	S
	Scald	3	12	4	19			
	Contact	3	2	0	5			
	Electrical current	0	1	3	4			
	Total	8	22	20	50			

"$\chi^2 obs.$ = Chi-square observer, $\chi^2 crit.$ = Chi-square critical, Df= Degree of freedom, P-value= Probability value, S= significant"

Findings reveals there were significant relationship between causes of burn and its severity at $p\text{-value} \leq 0.05$.

Discussion

Out of (50) patients who participated in our study their age ranged from (20-29) years old and constituted (40.0%) of the study sample as above in table (1). This result consisting with result of study conducted in Mosul, Iraq deals with prevalence of burns among females. Their finding indicate that(34%) as most of study participant were aged in (21-30) years old[11].Concerning gender, most burned participants were female, which composed (78.0%) and lives in urban areas (60.0%) out total number. Women are more dealing with the methods and ways that lead to burns injuries, such as cooking, or burning as a result of dealing with heating devices, so we note the rate of burns spread with flame and scald more prevalent in females. On other hand, study of Mustafa deals with analysis and description of suicidal burns admitted to Al-Fayhaa General Hospital in Basra, Iraq. It's found that most patients were females (74%) [12].Twenty eight percent were primary school graduated while, in study of Zuo and others have been studied the important developments in burn care. Their findings depicts that most patient were illiterate and the education play an impertinence role with management of burn [13]. Sixty six percent of sample participant were married, due to the participants age marriage is allowed, also results corsponding with descriptive epidemiology of unintentional burn trauma admission to a tertiary-level government hospital in Nepal. Their findings depicts that (52.1%) of patients were married [14]. Our result reveals that the most burned category in terms of the occupation are students (56%) and most of them in adolescent and young adult ages. Maybe as a result of their lack awareness of the risky things that can cause burns, and also because of accidental burns during cooking or burn from the hot water in cars .While, in study of Hanady which conducted in Mosul, Iraq deals with prevalence of burns among females, found that most of burned patients were housewives in percentage of (56%) [15]. Causes of burns according to figure (1) are one of the most common medical examinations in hospitals and medical clinics. They occur as a result of exposure of the skin to high temperatures from liquids or solid objects, as well as direct exposure to flames, chemicals, and electric touches. Our findings show most causes of burn were flame in the rate of (44%) followed by scald

and contact were (38% & 10%) respectively. Only small ration were electric current burn, which composed 8% out total (50) burned patients. Burns occur as a result of a variety of external causes that are classified as thermal, chemical and electrical reasons and radiation. The most common causes of burns are fire or flames and followed by hot liquid burns. Most of burns occur at domestic or in work place so they were often unintended and there are also intentional burns as a result of aggression from another person or as a result of suicide attempts which is most common in teenagers. Our findings as figure (2) come with results of study done in Jordan assessed with pattern of burn injury. Their results reveals that flame burn was commonest cause of burn (65.4%) [16]. A burn was sort of trauma to the muscle tissue or skin due to heat, electricity, chemicals, friction, or radiation. Burns only effect the first layer layer of the skin are known as superficial or first degree burns. When damage occurs to some layers under the skin, it is known as partial deep burning or second degree burning. In a burn that affects all layers or a 3rd degree of burn, deformity extend to overall layers of the skin. 4th degree burn also includes deeper tissue injury, such as muscles or bones. Most cases entered into hospital were with moderate to severe burns (45% & 40%) respectively in our findings, that mean burn is not to be trivialize with dangers can it causes and has a severe implicitly affect on people because most of them don't pay attention or omitted the risks that causes by burns. Moderate burns cause severe pain as they affect the epidermis, dermis and sensory nerves, and also severe burns that reach the fatty layers under the dermis, and can lead to damage of nerves, which causes paresthesia. This result consists with result of study deals with initial evaluation and management of the critical burn patient. findings depicts that major causes of burn lead to moderate degree of burn [17]. Outcomes for burn patients as table (2) had excellent or good dramatically more than 20 years, yet burns still cause substantial morbidity and mortality. Proper evaluation and management, coupled with appropriate early referral to a specialist, greatly help in minimizing suffering and optimizing results. Our findings reveals that there were a significant relationship between causes of burn and it's severity at p-value ≤ 0.05. Results come with decade has been evaluated and management of thermal injuries: 2014 update. Find the flame burns have been influence their severity [18].Furthermore, the study has been evaluated and managed the acute and chronic thermal. It has confirmed that severity of burn (second degree has been significantly associated with those burn who caused by flame, and considered significant cause of worldwide morbidity and mortality [19].

Conclusion

A descriptive analytic study is carried out to explore the common causes of burn injuries among patients which conducted at burn center in Al-Imam Al-Sadiq hospital found that maximum incidence of burn injury seen in women. predominently of victims were adult age group of (20-29) years old and lives in urban enironement . Most burned patients were primary school graduated and they were married and in term of occupation most of them were students. Patients who attended burn center in Al-imam Al-sadiq hospital were burned by flame as a maximum incidence . Patients who were burned by flame, were moderate in severity and the severity of burn were affected by causes of burns.

Recommendation:

Thermal burns are the most common causes of burns in the world, as our study and most of previous studies have found. It is recommended to increase people awareness about risk of burns and how to avoid them and instruct them about correct dealing with most factors can causes serious burn injuries like cooking and try to avoid accidents, through education and health promotion programs. Development of strategy for burn prevention by the Ministry of Health because it is better way that makes people more aware and cautious when dealing with risks and preventing as much as possible exposure to risks and injuries and It is recommended to provide more burn centers in Babylon governorate and equipped them with a good staff.

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the College of Nursing and all experiments were carried out in accordance with approved guidelines.

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