International Journal of Medicine Research
ISSN: 2455-7404; Impact Factor: RJIF 5.42
Received: 29-11-2019; Accepted: 30-12-2019
www.medicinesjournal.com
Volume 5; Issue 1; January 2020; Page No. 71-74

A review of burns patients admitted to the burns center In Diwanya-Iraq during 2018

Dr. Ridha Saihood Dakheel[1], Dr. Hassan A Naiem[2], Dr. Luai Farhan Zghair[3]
[1, 2] AL-Diwanya Health Directorate, Iraq
[3] AL- Iraqia University, Medical College, Baghdad, Iraq

Abstract
Burn injury is one of the major causes of morbidity and mortality, specialy in low and middle-income countries, yet the epidemiology of burn in Iraq is rarely reported. We plan to analyzed the epidemiological characteristics of burn patients in Burn Center in Al- diwanya governorate during 2018. A cross sectional retrospective study was designed and the records of patients with burns admitted to the Burn Center in Al- diwanya governorate were evaluated. A total of 363 patients were involved in this study. there were 45.7% female and 54.3% male. There were 48.2% children under 15 years old which consists about half of the study population. Scald was the cause of burn in 67.8% subjects, whereas the burns in 30.6% of subjects were caused by flame. Children had statistically significant higher numbers of scald burns (P<O.Ol) and About 18.2% of patients involved had minor burns (less than 20% TBSA burns). We found that children under the age of 14 are the most common burn patients and the cause was scald burn which need more attention. About third of the cases admitted was discharge on their responsibility and against medical advice.

Keywords: burns, attention, discharge

Introduction
Burns are a major cause of morbidity and mortality worldwide. The WHO records that incidence of fire-related injuries globally is about 110 per 100,000 population [1], and that over 300,000 people die every year from fire-related injuries [2]. Mortality from burn injuries is 11 times higher in developing countries than in developed ones [3]. Many epidemiology studies of burns in developed countries are available·, However, data about burns were still limited in developing countries [4]. To our knowledge,, there is currently no study on burns in, diwanyah,Iraq. Acknowledging this problem in diwanyah Governorate is important.
This is a retrospective study to analyses all records of burn cases admitted to Burns center in Al- diwanya governorate during 2018.
The aims of this study were to determine:
1. The number of adults and children admitted.
2. The common causes of burns.
3. The percentage of the involved total body surface area (TBSA).
4. Duration of stay in the Burns center.
5. The mortality rates according to (TBSA).

Materials and Methods
This study was a retrospective review of 363 patients admitted to the Burns center between January and December 2018. The data was collected from patients' record. The data was analyzed then with Statistical Packages for Social Science (SPSS) version 19. In this study children were defined as patients aged 14 years or less. The major causes of burns were classified into scald, thermal, electrical and chemical. The degree of burns were assessed clinically. Major Burns were regarded as full thickness burn of more than 10% of Total Body Surface Area (TBSA) or partial thickness burns of more than 25% in adult or 20% at the extremes of age. The percentage of burns was assessed clinically by using Lund and Browder charting or Rule of Nine. Burns of critical areas such as hands, face, perineum,feet and inhalation injury or patients with pre-existing serious medical disorder were considered as major burns.

Results
Table1, shows there were 45.7% female and 54.3% male. The female to male ratio was 1:1.2. There were 48.2% children under15 years old which consists about half of the study population. Of this group, 89children were males and 86 were females with a ratio of 1.03:1. The number of male children were almost equal the number of female children in burns.
Table 2 shows the common causes of burns in this study which are categorized into scald (hot water, soup & steam), thermal (kerosene burn, gas explosion, fire on clothes), electrical and chemical. The study showed 67.8% had scald, 30.6% had thermal, 1.7% had electrical burns and no chemical burns was recorded. More than half were burns from scalding injury, whereas chemical burns were null. However in regard to children, 92% were scald burns by hot water or oil, whereas 8% were thermal burns from fireworks or cigarette lighter induced fires. Children had statistically significant higher numbers of scald burns (P<O.Ol). Domestic burns were consist of 76% overall admission. About 18.2% of patients involved (66 cases) had minor burns (less than 20% TBSA burns). Of this proportion Only 2.8% had less than 10% of TBSA burns (10 cases) as shown in table3.Severe burns of more than 20% TBSA accounts for the majority of the admissions 91.8% (297cases), with higher percentage 29.5% fall in the category of 21-30% TBSA involved. Numbers of hospital stay in days is shown in figure 1 which increased almost proportionate with TBSA, and the most frequent number is 1 to 2 days, There was no clear relationship noted between the degree of burns and duration of stay in the burn center in this study. Distribution of

admissions among months of the year shown in Table 4 which shows that most admissions occur in January followed by September 11% and 10.5% respectively while the least on February and December with 6.3% for each.The majority of the patients were from diwania district 96.1% with few cases were from nearby governorates hilla, samawa and nasiriyah. Fig. 2. Majority of the injuries were due to first and second degree burns with most being second degree burns. There were few third degree burns. The outcome of cases shown in table 5, there was 49.9% of cases improved, 33.6% discharged on their own responsibility against the advice of the medical staff and 15.7% were died. Table 6 shows jobs of the patients were categories them to children (5 years aged and less), students, housewives, employers and retired. Twelve (86%) patients who died had inhalation injury caused by fire or explosion.. All mortality had TBSA of burns of more than 20% except one who had severe inhalation injury. The patients who died had significantly larger area of burns of more than 20% TBSA (P<0.05) and a higher incidence of inhalation injury (P<0.02). The main cause of death in the study was inhalation injury resulted in ventilation and pulmonary complication like respiratory failure, adult respiratory distress syndrome and pneumonia. Other causes of death in burns patients were septiceamia in overwhelming wound infection, acute renal failure, and cardiac failure as found in Table IV. The same patient who died in the study usually had few contributing causes of death.

Table 1: Sex of the patients

Gender	Frequency	Percent
male	197	54.3
female	166	45.7
Total	363	100.0

Table 2: type of burn

	Frequency	Percent
scald	246	67.8
flame	111	30.6
electric	6	1.7
Total	363	100.0

Table 3: percentage of burn

	Frequency	Percent
1-10%	10	2.8
11-20%	56	15.4
21-30%	107	29.5
31-40%	90	24.8
41-50%	30	8.3
51-60%	13	3.6
61-70%	5	1.4
71-80%	16	4.4
81-90%	24	6.6
91-100%	12	3.3
Total	363	100.0

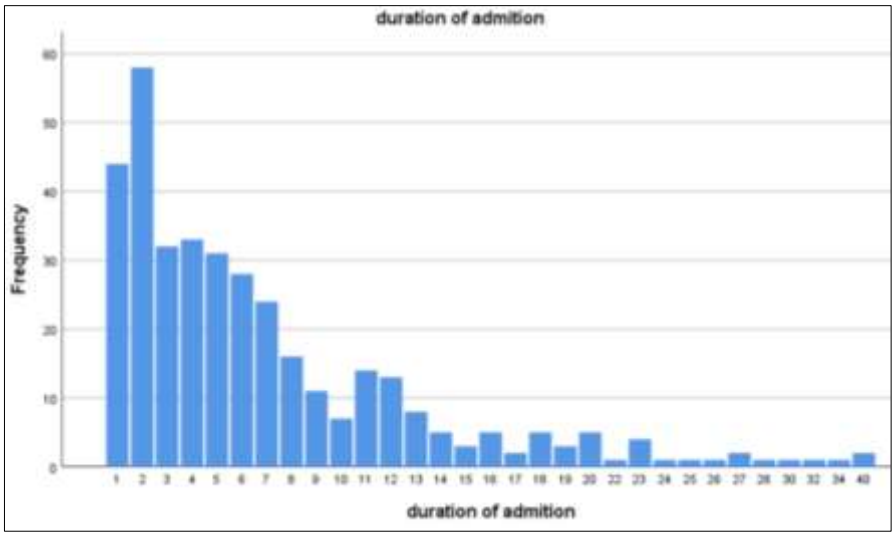

Fig 1: Duration of admission in days**.**

Table 4: month of admition

	Frequency	Percent
January	40	11.0
February	23	6.3
march	29	8.0
April	27	7.4
may	26	7.2
June	36	9.9
July	28	7.7
august	35	9.6
September	38	10.5
October	32	8.8
November	26	7.2
December	23	6.3
Total	363	100.0

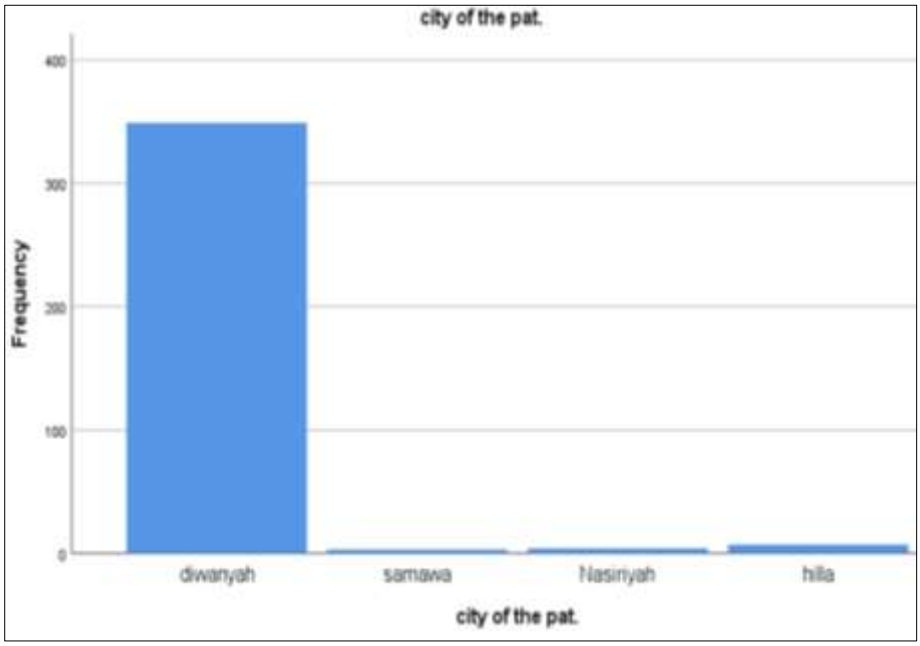

Fig 2: Residence of the patients

Table 5: outcome of the cases

	Frequency	Percent
improve	181	49.9
dis. on his own resp.	122	33.6
referral	3	0.8
dead	57	15.7
Total	363	100.0

Discussion

363 records of burn patients was analyzed in this study: there were more males than females (54.3 vs. 45.7) this is consistent with reports of other studies in the region [4, 5, 6] but different to some previous studies in Iraq which reported a higher proportion of females [7, 8]. This could be explained probably by the fact that there were more male children in our study. Boys in general, especially those under 6 years old, are usually playful and have adventurous nature and thus more exposed to hot liquid, stoves, hot kitchen appliances and fire places. And then in teenage being involved in activities that are prone to cause burns.

In our study the majority of patients (48.2%) were children under 15 years old, which is similar to other studies conducted in the region [5, 6, 9]. Our results, in general, indicate that both male and female children are at high risk of being affected by burns, similar to long-term retrospective studies carried out in China [10], and Oman [11]. more than half of the patients were from outside diwaniya City, which can be explained by the higher population numbers living in towns and districts, poorer circumstances, generally greater exposure to sources of injury and more crowded families.

There is wide variability reported in previous studies regarding burn season [12, 13], While our study shows that autumn and summer have the highest number of burn admissions which is comparable to other Iraqi study [14]. Our findings show that the most common mechanism of injury in children (under 14) was scald due to hot fluids. Which is the same findings to previous Iraqi studies in Mosul [15] Baghdad [16], and Sulaimaniyah [17], suggesting that children are more exposed to boiling fluids because they tend to be more active and play around kitchen where.

In general the mortality rate in our study was 15.7%, which is lower than mortality reported in Baghdad and Sulaimaniyah City, but higher than what has been recorded from neighboring countries such as Iran with 8.9% [18], Kuwait with 5.75% [4] and Saudi Arabia with 2.8% [13], but it was lower than that reported in Basrah 22% [14] and in Jordan with 23% [19]. The immediate cause of death that recorded in the files were septicaemia and inhalation injury. Many self-inflicted cases which included in our study rises the overall high mortality rate, which is due to the high TBSA% burnt [20].

This study was carried out retrospectively on hospital records of the patient, which are normally inconsistent and incomplete. Some data from patient files included in the study were missing, and there were files missing as well and this can be regarded as the most important Limitation of this study.

Conclusion

In this study there was more children under the age of 14 and the most common cause was scald burn which need more attention. About third of the cases admitted 33.6% was discharge on their responsibility and against medical advice which put large question mark on general health education regarding burn management, outcome and complications. Overall in hospital mortality rate was lower than that reported in other studies conducted in Iraq, which may be partially attributed to high percentage of patients those discharge from the burn center to complete their treatment on popular primitive bases and might die at home.

References

1. World Health Organization (WHO). Health statistics and health informationsystems. Global burden of disease (GBD). Annual incidence for selected causes, in WHO regions, estimates for 2004. [online] [cited 2011 Nov 15]; Available from URL:http:// www.who. int/ health info/ global burden disease/ estimates_ regional/en/ index.html
2. World Health Organization (WHO). The injury chart book: a graphical overview of the global burden of

injuries, 2002. http://whqlibdoc.who. int/ publications/ 924156220x.pdf
3. Peden M. World report on child injury prevention. World Health Organization, Geneva, Switzerland, 2008. Available online: https://www. ncbi.nlm.nih. gov/pubmed/?term=Peden%2C+M.+World+report+on+ child+injury+prevention (accessed on 19 August 2015).
4. Khashaba HA, Al-Fadhli AN, Al-Tarrah KS, Wilson YT. Epidemiology and outcome of burns at the Saud Al Babtain Burns, Plastic and Reconstructive Surgery Center, Kuwait: Our experience over five years (from 2006 to 2010). Ann Burns Fire Disasters. 2012; 25(4):178-187.
5. Ciftci I, Arslan K, Altunbas Z, Kara F. Epidemiologic evaluation of patients with major burns and recommendations for fighting with Burns. Turkish Journal of Trauma and Emergency Surgery. 2012; 18:105-110.
6. Alavi C, Salehi S, Tolouei M, Paydary K. Epidemiology of burn injuries at a newly established burn care center in Rasht. Trauma Monthly. 2012; 17:341-6.
7. Othman N, Kendrick D. Burns in Sulaymaniyah Province, Iraq: epidemiology and risk factors for death in patients admitted to hospital. J Burn Care Res. 2011; 32:e126-e134,.
8. Stewart B, Lafta R, Esa Al Shatari S, Cherewick M. Burns in Baghdad from 2003 to 2014: Results of a randomized household cluster survey. Burns. 2016; 42:48-55,.
9. Elsous A, Ouda M, Mohsen S, Al-Shaikh M. Epidemiology and outcomes of hospitalized burn patients in Gaza Strip: A descriptive study. Ethiop J Health Sci, 2016; 26:9.
10. Li H, Yao Z, Tan J, Zhou J. Epidemiology and outcome analysis of 6325 burn patients: a five-year retrospective study in a major burn center in Southwest China. Scientific Reports. 2017; 7:46066.
11. Al-Shaqsi S, Al-Kashmiri A, Al-Bulushi T. Epidemiology of burns undergoing hospitalization to the National Burns Unit in the Sultanate of Oman: A 25-year review. Burns. 2013; 39:1606-1611.
12. Aksoy N, Arli S, Yigit O. A retrospective analysis of the burn injury patients records in the emergency department, an epidemiologic study. Acad Emerg Med, 2014; 2(3):115-20.
13. Ali M. Pattern of burn injuries at King Fahad Hospital, Al-Baha: A study of 277 cases. Ann Saudi Med. 1997; 17:104-107.
14. M Al-Shamsi, N. Othman, The epidemiology of burns in Basra, Iraq. Ann Burns Fire Disasters. 2017; 30(3):167-171.
15. Published online, 2017.
16. Al-Zacko SM, Zubeer HG, Mohammad AS. Pediatric burns in Mosul: an epidemiological study. Ann Burns Fire Disasters. 2014; 27(2):70.
17. Carini L, Grippaudo F, Bartolini A. Epidemiology of burns at the Italian Red Cross Hospital in Baghdad. Burns, 2005; 31:687-691.
18. Kadir A. Paediatric burns in Sulaimani, Iraq. Ann Burns Fire Disasters. 2007; 20(3):121-5.
19. Karimi H, Momeni M, Motevalian A, Bahar MA. The burn registry program in Iran - First report. Ann Burns Fire Disasters. 2014; 27(3):154.
20. Haddadin W. Assault by burning in Jordan. Ann Burns Fire Disasters. 2012; 25(4):214-216.
21. Mohammadi AA, Danesh N, Sabet B, Jalaeian H. Self-burning: a common and tragic way of suicide in Fars Province, Iran. Iran J Med Sci. 2015; 33(2):110-3.