Original article

Study of Medicolegal Aspects of Burnt Cases Admitted to Burn Unit, Assiut university Hospitals: retrospective study

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ABSTRACT

Background: In both developed and developing countries, burns remain a medical, psychological, and economic burden. In Egypt, burns are a serious issue when compared to heart disease, cancer, and traffic accidents**. Objectives:** Accordingly, this work was conducted to study the medico legal aspects of burnt cases admitted to Burn Unit in Assiut University Hospitals. **Subjects and methods:** A retrospectives study included 730 reports data which were collected from the records during the period from1 January 2017 to the end of December 2020.Data collected included; age, gender, residence, socioeconomic level, causes of burn, site of burn, duration of hospital stay of victims, fate of cases, and causes of death. **Results:** There was an increase in the percentage of number of burned male victims which represented (68.9%) than female patients. Most burnt patients were among the age groups of toddlers (1-3 years) and children (4-17 years) with a percentage of (34.2%& 26%) respectively. There was a significant increase of burnt cases in rural areas with a percentage of 64.9%. There was a significant increase of burnt cases among low/very low group with a percentage 59%. The commonest cause of burn injuries encountered in this study was scald (50.5%) followed by flame was followed by scald (42.2 %). Most injuries occurred at home with a percentage of (92.7%). The range of duration of hospital stay for the cases included in the study was 7 days. 84% of burnt cases included in the study are cured while 16% of burnt cases died due to sepsis (43.5%)**. Conclusion:** Infants, toddlers and children are affected more with burns. Males are affected by burns more than females. The most common type of burns was due to scald**.** Proper preventive measures against burns should be taken in order to prevent burns particularly in children. **Recommendations:** Medicolegal reports should be attached to the medical report of the patients.

Keywords: burn, Assiut, scald, flame, accidental, suicide**.**

I. INTRODUCTION

Acute harm to the skin or other organic tissues produced mostly by hot or cold materials, chemicals, electricity, or radioactive radiation is referred to as a burn (Kagan et al., 2013).Burn injury is a common type of traumatic injury, causing significant morbidity and mortality. Because of long hospitalization and rehabilitation, and costly wound and scar treatment, burns are considered among the most expensive traumatic injuries(Sánchez et al., 2007).Burns are considered of medicolegal importance as burn traumas may occur in various forms such as domestic accidents, occupational accidents, negligence or abuse of the elderly or children (Hobbs, 1986).Burn injuries are a global public health issue, with an estimated 265,000 deaths each year (Peranantham et al., 2014). In the world, burn is a common method of suicide and homicide. Following road accidents, falls, and interpersonal violence, it is the world's fourth most prevalent type of trauma (Yadav et al., 2019).Burn injuries have an impact on both the physical and psychological well-being of the victim. Burns can cause deteriorate skin cells, tissues, and organs too (Swaroop Sonone et al., 2020).

The aim of this work is to investigate medicolegal aspects and demography of burn cases admitted to Burn Unit in Assiut University hospitals, over a period of four years starting from the first of January 2017 to the last of December 2020.

II. SUBJECTS AND METHODS

Study design and setting

The present study is Observational retrospective descriptive study carried out in Burn Unit in Assiut University hospitals.

Study population:

The study included 730 reports Data which were collected from the records during the period from1 January 2017 to the end of December 2020.

Registered data:

Data collected from the records include age, gender, residence, social level, type of burn, site of burn injury, duration of hospital stay of victims, manner of burn, fate of cases, and cause of death.

- Age {infant (<1 year), toddler (1-3 years), children (4-17 years), young adult (18-39 years), middle aged adult (40-59 years) and elderly (>=60 years)}.
- Gender (female or male).
- Residence (rural or urban).
- Socioeconomic level (High/middle& low/very low)
- Manner of burn injury (accidental, suicidal or homicidal).
- Causes of burn (flame, scald, chemical and electrical injury).
- Degree of burn (first, second, third and fourth) (Aydogdu et al., 2021).
- Place of burn (domestic or occupational).

- Site of burn on the body (head, trunk, upper extremities, lower extremities, back and buttock).
- Period of hospital stay (<2days,2-7days, 8-14 days, 15-30 days and >30 days.)
- Outcome (cured or died).
- Cause of death (sepsis, shock, respiratory tract complications and electrolyte imbalance).

Inclusion criteria:

All cases of burn presented in the emergency units at Assiut University Hospitals during the period from1 January 2017 to the last of December 2020 which include;

- Recent burns
- All age groups.
- All degrees of burn.
- Patients of different residence and occupations.

Exclusion criteria; Old burn injuries

Statistical analysis:

The collected data were tabulated and analyzed using SPSS version 20 software (SpssInc, Chicago, ILL Company). Results were expressed as frequency and percent for categorical variables and mean ± SD for continuous variables. Chi-square test ($\chi 2$) was used for comparing data. P- Value < 0.05 was considered statistically significant.

Ethical considerations:

Ethical approval was obtained from the Ethical Committee of Faculty of Medicine, Assiut University, Egypt with IRB no. 17300644. Consent to participate from participants is not applicable as the data was obtained from the electronic health database.

III. RESULTS

Table (1) shows Socio-demographic criteria of burnt patients. The total number of cases of burn admitted to the Burn unit at Assiut University Hospitals from years 2017 to 2020 was (730 cases) distributed as (503 males and 227 females). There was an increase in the percentage of number of burned male victims which represented (68.9%) than female patients which represented (31.1%). Most burnt patients were among the age groups of toddlers (1-3 years) and children (4-17 years) with a percentage of (34.2%& 26%) respectively. There was a significant increase of burnt cases among low/very low group with a percentage 59%. There was a significant increase of burnt cases in rural areas with a percentage of 64.9%.

Figure (1) shows the degree of burn, most burn injuries were of second degree with a percentage of 39.7 % .

Figure (2) There was highly significant increase in accidental burns (97.3%) compared to homicidal and suicidal cases (1.6% and 1.1%) respectively.

Table (2) demonstrates some characters of burn including cause and site of burn injury, place of injury, duration of hospital stay, outcome and cause of death. The commonest cause of burn injuries encountered in this study was scald (50.5%) followed by flame (42.2 %), electrical injury (7.1) and chemical injury (0.1%). Upper limb and trunk are the most common sites of burn with a percentage of (52.2%and 49.2%) respectively. Regarding the place of burn injuries, most injuries occurred at home with a percentage of (92.7%). The range of

duration of hospital stay for the cases included in the study was 7 days, most cases stayed in hospital for 2-7 days with a percentage of 42.1% of total cases. 84% of burnt cases included in the study are cured while 16% of burnt cases died due to sepsis (43.5%), shock (36%), respiratory tract complications (12%) and electrolyte disturbance (8.5%).

Relation between causes of burn injuries and different age groups included in the study was shown in table (3). The most common cause of burn among infants (<1year) and toddlers(1-3 years) was scald with a percentage (90% and 85.2%) respectively, While flame was the most common of cause of burn injuries among children (4-17 years), young adult (18-39years), middle aged adult (40-95 years) and elderly (>=60 years).

The accidental manner of burn injury was the most common manner of injury among all age groups encountered in the study as demonstrated in table (4).There was significant difference among the burnt patients as regard age and the place of burn injury, most injuries occurred at home with all age groups included in our study with P- value (<0.001) table (5).

Table (6) demonstrates that there was significant difference among the burnt patients as regard age and the degree of burn as it shows that infants and toddlers commonly presented with second degree burn while the other age groups presented with third degree burn P value (<0.001).

There was statistically significant difference between age and outcome of burnt cases with P- value <0.001. The percentage of cured infant(<1 year) was 95% of total infant cases while the percentage of cured elderly was 52.2% of total elderly cases table (7).

Table (8) shows insignificant relationship between different age groups and the cause of death. The most common causes of death were sepsis and shock.

There was statistically significant difference between manner of burn injury and sex, table (9) shows that male to female percentage in accidental injuries was 97.8% to 96%. All suicidal cases were female, while most homicidal cases were males.

Regarding the relation between the degree and outcome, there was statistically significant difference as the percentage of died cases with first degree burn those died with fourth degree is 4% to 48.3 % table (10).

Figure (3) shows significant positive correlation between degree and hospital stay as fourth degree burn required longer duration of hospital stay.

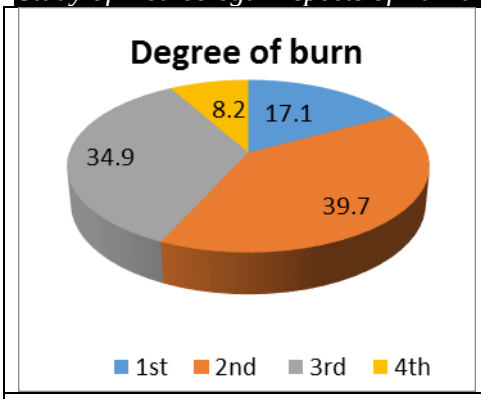

Fig. (1): Degrees of burn of the burnt patients at Assiut University Hospitals from years 2017 to 2020.

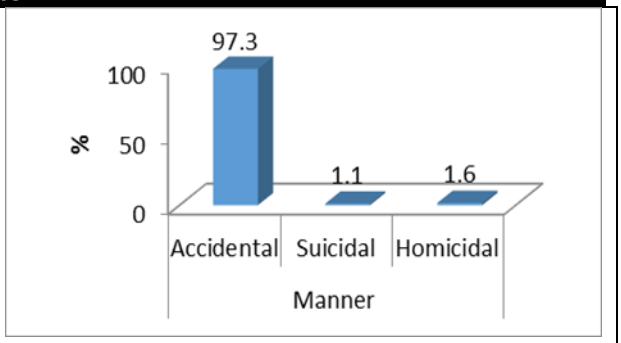

Fig. (2): Manner of burn injury of the burnt patients at Assiut University Hospitals from years 2017 to 2020.

Table (1): Sociodemographic criteria of the burnt patients at Assiut University Hospitals from years 2017 to 2020 by Chi-square test.

Variable		no. (n=730)	%	P- value
gender	Male	503	68.9	<0.001**
	Female	227	31.1	
Age groups	Infants (<1 year)	40	5.5	<0.001**
	Toddlers (1-3 years)	250	34.2	
	Children (4-17 years)	190	26.0	
	Young adults (18-39 years)	167	22.9	
	Middle aged adults (40-59 years)	58	7.9	
	Elderly (>=60 years	25	3.4	
Residence	Rural	474	64.9	<0.001**
	Urban	256	35.1	
Socio-economic level	High/middle	299	41.0	<0.001**
	Low/ very low	431	59.0	

*n= number of caes; *P<0.05 significant ;**P<0.001 highly significant*

Table (2): Distribution of the studied patients according to some characters and outcome of the burn by Chi-square test.

Variable		no. (n=730)	%	One-way chi square test	P-value
Cause of injury	Flame	308	42.2	550.7	<0.001**
	Scald	369	50.5		
	Electrical injury	52	7.1		
	Chemical injury	1	0.1		
Site of injury	Face	206	28.2	364.6	<0.001**
	Trunk	359	49.2		
	Upper limb	381	52.2		
	Lower limb	268	36.7		
	Back	134	18.4		
	Buttock	216	29.6		
Place of burn injury	Domestic	677	92.7	533.4	<0.001**
	Occupational	53	7.3		
Duration of hospital stay (days)	<2 days	74	10.1	268.4	<0.001**
	2-7 days	307	42.1		
	8-14 days	161	22.1		
	15-30 days	129	17.7		
	> 30 days	59	8.1		
Outcome	Cured	613	84.0	337.0	<0.001**
	Died	117	16.0		
Cause of death (n=117)	Sepsis	51	43.5	42.3	<0.001**
	Shock	42	36		
	Respiratory tract complications	14	12		
	Electrolyte Imbalance	10	8.5		

*n= number of cases; *P<0.05 significant ;**P<0.001 highly significant*

Table (3): Relation between causes of burns and different age groups of the burnt patients at Assiut University Hospitals from years 2017 to 2020 by Chi-square test.

Cause of injury		Age groups						p-value
		Infants (<1year)	Toddlers (1-3 years)	Children (4-17 years)	Young adults (18-39 years)	Middle aged adults (40-59 years)	Elderly (>60 years)	<0.001 **
Flame	Count	4	33	91	114	46	20	
	%	10.0%	13.2%	47.9%	68.3%	79.3%	80.0%	
Scald	Count	36	213	81	30	5	4	
	%	90.0%	85.2%	42.6%	18.0%	8.6%	16.0%	
Electrical injury	Count	0	4	18	22	7	1	
	%	0.0%	1.6%	9.5%	13.2%	12.1%	4.0%	
Chemical injury	Count	0	0	0	1	0	0	
	%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	
Total	Count	40	250	190	167	58	25	
	%	100.0%	100.0%	100.0%	100.0%	100.0 %	100.0%	

*P<0.05 significant;**P<0.001 highly significant

Table (4): Relation between manner of burns and different age groups of the burnt patients at Assiut University Hospitals from years 2017 to 2020 by Chi-square test.

Manner of injury		Age groups						p-value
		Infants (<1 year)	Toddlers (1-3 years)	Children (4-17 years)	Young adults (18-39 years)	Middle aged adults (40-59 years)	Elderly (>=60 years)	<0.001 **
Accidental	Count	40	250	187	157	52	24	
	%	100.0%	100.0%	98.4%	94.0%	89.7%	96.0%	
Suicidal	Count	0	0	2	5	1	0	
	%	0.0%	0.0%	1.1%	3.0%	1.7%	0.0%	
Homicidal	Count	0	0	1	5	5	1	
	%	0.0%	0.0%	0.5%	3.0%	8.6%	4.0%	
Total	Count	40	250	190	167	58	25	
	%	100.0%	100.0%	100.0%	100.0 %	100.0%	100.0%	

*P<0.05 significant;**P<0.001 highly significant

Table (5): Relation between place of injury and different age groups of the burnt patients at Assiut University Hospitals from years 2017 to 2020 by Chi-square test.

Place of injury		Age groups						p-value
		Infants (<1 year)	Toddlers (1-3 years)	Children (4-17 years)	Young adults (18-39 years)	Middle aged adults (40-59 years)	Elderly (>=60 years)	<0.001 **
Domestic	Count	39	243	185	147	43	20	
	%	97.5%	97.2%	97.4%	88.0%	74.1%	80.0%	
Occupational	Count	1	7	5	20	15	5	
	%	2.5%	2.8%	2.6%	12.0%	25.9%	20.0%	
Total	Count	40	250	190	167	58	25	
	%	100.0 %	100.0%	100.0%	100.0%	100.0%	100.0 %	

*P<0.05 significant;**P<0.001 highly significant

Table (6): Relation between degree of burn injury and different age groups of the burnt patients at Assiut University Hospitals from years 2017 to 2020 by Chi-square test.

Degree of burn		Age groups						p-value
		Infants (<1 year)	Toddlers (1-3 years)	Children (4-17 years)	Young adults (18-39 years)	Middle aged adults (40-59 years)	Elderly (>=60 years)	<0.001 **
First	Count	5	45	34	27	9	5	
	%	12.5%	18.0%	17.9%	16.2%	15.5%	20.0%	
Second	Count	20	117	81	50	16	6	
	%	50.0%	46.8%	42.6%	29.9%	27.6%	24.0%	
Third	Count	13	81	61	64	28	8	
	%	32.5%	32.4%	32.1%	38.3%	48.3%	32.0%	
Fourth	Count	2	7	14	26	5	6	
	%	5.0%	2.8%	7.4%	15.6%	8.6%	24.0%	
Total	Count	40	250	190	167	58	25	
	%	100%	100.0%	100.0%	100.0%	100.0%	100.0%	

*P<0.05 significant;**P<0.001 highly significant

Table (7): Relation between outcome and different age groups of the burnt patients at Assiut University Hospitals from years 2017 to 2020 by Chi-square test.

Outcome		Age groups						p- value
		Infants (<1 year)	Toddlers (1-3 years)	Children (4-17 years)	Young adults (18-39 years)	Middle aged adults (40-59 years)	Elderly (>=60 years)	<0.001 **
Cured	Count	38	240	165	119	38	13	
	%	95.0%	96.0%	86.8%	71.3%	65.5%	52.0%	
Died	Count	2	10	25	48	20	12	
	%	5.0%	4.0%	13.2%	28.7%	34.5%	48.0%	
Total	Count	40	250	190	167	58	25	
	%	100%	100.0%	100.0%	100.0%	100.0%	100.0%	

*P<0.05 significant ;**P<0.001 highly significant

Table (8): Relation between cause of death and different age groups of the burnt patients at Assiut University Hospitals from years 2017 to 2020 by Chi-square test.

Cause of death		Age groups						p-value
		Infants (<1 year)	Toddlers (1-3 years)	Children (4-17 years)	Young adults (18-39 years)	Middle aged adults (40-59 years)	Elderly (>=60 years)	0.54
Sepsis	Count	1	4	11	23	9	3	
	%	50.0%	40.0%	44.0%	47.9%	45.0%	25.0%	
Shock	Count	1	2	10	16	6	7	
	%	50.0%	20.0%	40.0%	33.3%	30.0%	58.3%	
Respiratory tract complication	Count	0	3	1	6	4	0	
	%	0.0%	30.0%	4.0%	12.5%	20.0%	0.0%	
Electrolyte imbalance	Count	0	1	3	3	1	2	
	%	0.0%	10.0%	12.0%	6.3%	5.0%	16.7%	
Total	Count	2	10	25	48	20	12	
	%	100%	100.0%	100.0%	100.0%	100.0%	100.0%	

*P<0.05 significant ;**P<0.001 highly significant

Table (9): Relation between manner of injury and gender of the burnt patients at Assiut University Hospitals from years 2017 to 2020 by Chi-square test.

Manner of injury		Sex		p- value
		Male	Female	
Accidental	Count	492	218	<0.001
	% within sex	97.8%	96.0%	
Suicidal	Count	0	8	
	% within sex	0.0%	3.5%	
Homicidal	Count	11	1	
	% within sex	2.2%	0.4%	
Total	Count	503	227	
	% within sex	100.0%	100.0%	

P<0.05 significant ;P<0.001 highly significant*

Table (10): Relation between degree of burn and outcome of the burnt patients at Assiut University Hospitals from years 2017 to 2020 by Chi-square test.

Outcome		Degree of burn				p- value
		First	Second	Third	Fourth	<0.001** (HS)
Cured	Count	120	259	203	31	
	%	96.0%	89.3%	79.6%	51.7%	
Died	Count	5	31	52	29	
	%	4.0%	10.7%	20.4%	48.3%	
Total	Count	125	290	255	60	
	%	100.0%	100.0%	100.0%	100.0%	

P<0.05 significant ;P<0.001 highly significant*

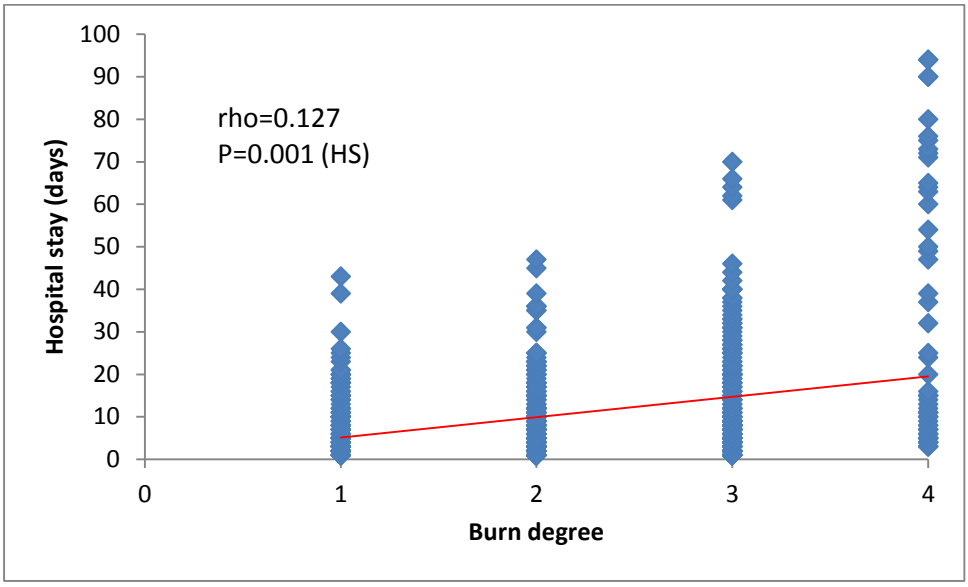

Figure (3): Scatter graph showing relation between degree of burn and duration of hospital stay of the burnt patients at Assiut University Hospitals from years 2017 to 2020.

IV. DISCUSSION

Burn injuries establish a significant global burden of diseases which are one of the most dangerous conditions encountered in medicine and can be preventable (Al-Shaqsi et al., 2013).

In the current study, there were 730 cases admitted to Burn Unit in Assiut University hospitals during the period from1 January 2017 to the end of December 2020.

The present study demonstrated that Most burnt patients were among the age groups of toddlers (1-3 years) and children (4-17 years) with a percentage of (34.2%& 26%) respectively. This can be explained by unawareness of children and their exploring nature and activity in addition to lack of proper supervision from parents especially in crowded houses of low socioeconomic classes (Attia et al., 1997). This was in accordance with Heshmat et al. (2014) on their study on burnt patients in burn unit in Tanta university hospital also, the same finding was found by Hassen et al. (2010) in their study on burnt patients in Assiut university hospital burn unit. However, Afify et al. (2012) founded that adult group of age are more affected with burn injury being the age of activity and power with increased risk to exposure to fire followed by children group.

Male predominance was noted in current study with a percentage of (68.9%) where female percentage was (31.1%). This may be due to that Males are more likely to be involved in deadly burn accidents, which might happen at work or at home.

Furthermore, in the lack of awareness and proper safety procedures, they may attempt to control the fire before the arrival of firemen. This is in accordance with Othman (2010) in Iraq, Kobayashi et al. (2005) in Japan and Tung et al. (2005) in Taiwan which are regarded as industrialized countries.

Female predominance, on the other hand, was reported in most Indian researches, including Chaudhary et al. (2013). This could be owing to inexperience with cooking and the use of dangerous fire appliances, as well as the use of conventional synthetic sarees, which quickly catch fire and spread throughout the body. Intentional burning is also widespread owing to family feuds and dowry issues(Singh, 2017).

It was noticed that cases from rural areas were more than those from urban areas (64.9% and 35.1 respectively). This may be attributed to the basis that rural areas contain inadequate safety measures using traditional kerosene stoves in addition to warming houses by burning wood in cold climate. This finding was in consistent with the results obtained by Shinde & Keoliya (2013) and Akther et al. (2010).

Regarding causes of burn in the present study, scald was the major cause which account for 50.5% of cases this may be due to spilling or immersion in hot water baths, hot liquids and foods, and hot cooking oils. Children are more susceptible to the effects of scalds and acquire more damage at lower temperatures than adults due to their thinner skin.

This result was consistent with Arslan et al. (2013) and George & Abdellah (2017). This was opposite to the findings of Kandeel (2019) who reported that flame was the major cause of burn as many areas of Menoufia governorate are still have no domestic gas systems and still dependent on portable gas cylinders which lack safety measures.

There was statistically significant relation between age groups and cause of burn. Scald was the most common cause of burn among infants which may be due to carless behavior, while flame was the most common of cause of burn injuries among adult and elderly because of their uses of domestic gas stoves in addition to their occupational exposure to burn injuries. This was in agreement with George & Abdellah (2017).

The current study revealed that 92.7% of burns occurred at home. This could be attributed to the fact that the vast majority of burnt patients in the present study were children who spent the majority of their days at home and were at high risk of burn injury. This was in agreement with Hassen et al. (2010) and Hashish & Abdel-Karim (2017).Conversely, Rasouli et al. (2011) in Iran found that occupational burn accounts for most burns may be because of better home safety measures in industrialized countries.

It was noted that, second degree burns were the commonest (39.7 %). This may be due to the high incidence of scald injuries in the current study which usually causes superficial type of injuries. The same finding was observed by Heshmat et al. (2014) who found that second degree

burns were the commonest type of burn in their study in burn unit in Tanta university hospital. Jaiswal et al. (2007) reported that third degree burns were the commonest type of burn in their study in India.

97.3% of cases included in the present study were accidentally injured with burn. While suicide cases accounts for only 1.1% of total cases. This is probably due to the fact that suicide burns are uncommon in Egypt, as evidenced by the low number of suicidal cases compared to accidental instances. This goes against religious principles, as suicide is considered a criminal act against oneself under Islamic law. It could also be attributed to an underestimating of suicidal burn, as incident reporters may not record the exact method of burn for fear of legal responsibility. The same findings were observed Hashish & Abdel-Karim (2017) and Kandeel (2019).

On the other hand, These findings contradicted those of Vidhate & Pathak (2017), who found that the majority of deaths were suicide in origin, followed by homicidal, and finally, accidental. Different lifestyles, beliefs, and civilizations may be to blame for the large disparities. As in India, there was a long-standing dowry issue that drove some women to commit suicide by burning themselves.

Septicemia was the commonest cause of death in the current study due to the hospital acquired infection and the state of immunosuppression and systemic inflammation induced by burns. This was in agreement with Harish et al. (2013) , Taylor et al. (2014) and (Kandeel, 2019).

On the opposite site Nath et al. (2015) reported that shock was the main cause of death in his study in North east India. Heshmat et al. (2014) on the contrary, observed that respiratory tract complications were the main cause of death.

In the current study, it was reported that Upper limb and trunk are the most common sites of burn with a percentage of (52.2%and 49.2%) respectively. This is may be explained by that the majority of cases were affected by scald which is due to pouring hot liquid from above downwards.

84% of cases included in the present study ended in complete cure.Heshmat et al. (2014) reported 36.9% improvement among burnt cases in Minoufiya University Hospital Burn Unit. Whereas Jaiswal et al. (2007)reported 62.4 % mortality rate among studied burnt victims. This difference may be due to difference in manner of injury, facilities and regimens of treatment in every country and in different burn centers. Relation between age groups and outcome showed statistically significant difference as infant, toddler and children showed high percentage of cure compared with elderly patients this may be due to better healing ability in young aged groups in addition to the present of chronic diseases in elderly leading to bad outcome. On the other side, there is no significant difference between outcome and gender.

The current study showed statistically significant difference between the outcome and degree of burn as 48.3% of fourth degrees burn

ended with death due to severe damage of burnt tissues.

There was significant positive correlation between degree and duration of hospital stay as fourth degree burn required longer duration of hospital stay. This is can be explained by their need for longer duration of medical care.

V. CONCLUSION

Infants, toddlers and children are affected more with burns. Males are affected by burns more than females. The most common type of burns was due to scald. Most cases were from rural areas. Most cases were of second degree burn. The commonest place of occurrence of burn injuries was indoors. Most injuries affected the upper limb and trunk. The majority of cases were accidentally affected with burn. The most common cause of death was septicemia.

VI. RECOMMENDATION

Were recommend that medicolegal report should be included within the medical reports of the patients with detailed recording of the data as the source of fire, examination of clothes of burnt patients, drug analysis Consultation of Pediatrician for burnt children. Physicians and surgeons should be aware of the medicolegal implications of burn injuries, as well as the significance of meticulously filling out medicolegal reports in all burn cases.

Cooking safety precautions include not having a full fuel bottle near the fire source. To lower the incidence of burn injuries, non-governmental organizations and social groups are required to educate the public about safety guidelines.

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دراسة الجوانب الطبيه الشرعيه لحالات الحروق التي تم قبولها بوحدة الحروق بمستشفيات جامعة أسيوط: دراسة بأثر رجعي

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تظل الحروق عبئًا طبيًا ونفسيًا واقتصاديًا في كل من البلدان المتقدمة والنامية وفى مصر ، تعتبر الحروق مشكلة خطيرة عند مقارنتها بأمراض القلب والسرطان وحوادث المرور. بناءً على ذلك تم إجراء هذا العمل لدراسة الجوانب الطبية القانونية لحالات الحروق وعوامل التنبؤ الخاصة بها في وحدة الحروق بمستشفيات جامعة أسيوط. **الطريقه البحثيه** : دراسة بأثر رجعى تضمنت ٧٣٠ تقرير وتم تحليل البيانات التى تم جمعها من السجلات خلال الفترة من ١ يناير ٢٠١٧ إلى نهاية ديسمبر ٢٠٢٠ ، وتضمنت البيانات التي تم جمعها: العمر ، والجنس ، والإقامة ، والمستوى الاجتماعي الاقتصادي ، وسبب الحرق ، و مكان الحرق ، ومدة مكوث الضحايا في المستشفى ، ومصير الحالات ، وسبب الوفاة. **النتائج**: كان هناك ارتفاع في نسبة ضحايا الحروق من الذكور بلغت (٦٨,٩٪) من الإناث. كان معظم مرضى الحروق من بين الفئات العمرية للأطفال الصغار (١-٣ سنوات) والأطفال (٤-١٧ سنة) بنسبة (٣٤,٢٪ و ٢٦٪) على التوالي. وسجلت زيادة ملحوظة في حالات الحروق في المناطق الريفية بنسبة ٦٤,٩٪. كانت هناك زيادة معنوية في حالات الحروق بين المجموعة المنخفضة / المنخفضة جدا بنسبة ٥٩٪. كان السبب الأكثر شيوعًا لإصابات الحروق التي تمت مواجهتها في هذه الدراسة هو الإصابة بالحروق (٥٠,٥٪) يليه اللهب (٤٢,٢٪). حدثت معظم الإصابات في المنزل بنسبة (٩٢,٧٪). كان مدى مدة الإقامة في المستشفى للحالات المشمولة في الدراسة ٧ أيام. تم شفاء ٨٤٪ من حالات الحروق المشمولة في الدراسة ، بينما مات ١٦٪ من حالات الحروق بسبب تعفن الدم (٤٣,٥٪) ، لخلاصة: الرضع (<١ سنه) الصغار(١-٣ سنوات) يتأثرون أكثر بالحروق. يتأثر الذكور بالحروق أكثر من الإناث(٦٨,٩% : ٣١,١). كان أكثر أنواع الحروق شيوعًا ناتجًا عن السلق. يجب اتخاذ تدابير وقائية مناسبة ضد الحروق من أجل منع الحروق خاصة عند الأطفال.

التوصيات: تم التوصية بضرورة تضمين التقرير الطبي القانوني ضمن التقارير الطبية للمرضى مع تسجيل مفصل للبيانات كمصدر الحريق ، وفحص ملابس المرضى المحترقين ، واستشارة طبيب الأطفال للأطفال المحروقين. يجب أن يكون الأطباء والجراحون على دراية بالآثار الطبية القانونية لإصابات الحروق ، بالإضافة إلى أهمية ملء التقارير الطبية بدقة في جميع حالات الحروق.مراعاه احتياطات سلامة والتى تشمل عدم وجود زجاجة وقود ممتلئة بالقرب من مصدر الحريق ولتقليل حدوث إصابات الحروق ، يُطلب من المنظمات غير الحكومية والفئات الاجتماعية تثقيف الجمهور حول إرشادات السلامة.