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Research Article

**TREATMENT OUTCOME AND EPIDEMIOLOGICAL  
PATTERN OF BURNT PATIENTS ADMITTED AT BURN  
CENTER**<sup>1</sup> Dr. Mariam Ilyas, <sup>2</sup>Dr. Rubab Saleem, <sup>3</sup>Dr. Anam Tahir<sup>1</sup>Women Medical Officer, DHQ Hospital Narowal<sup>2</sup>Women Medical officer, DHQ Hospital Okara<sup>3</sup>House Officer, Lahore General Hospital Lahore**Abstract:****Objective:** To evaluate the epidemiological pattern and treatment outcomes of burn patients.**Study Design:** Retrospective study**Place and Duration:** The Study was performed in the Plastic surgery and burn unit of Allied Hospital, Faisalabad for the period of three year from March 2013 to March 2016.**Methodology:** Retrospective review of records was conducted in all 3972. Variables such as age, sex, type of burn, burning mode and patient outcome were recorded and evaluated.**Findings:** The majority of patients (n = 3139, 79.0%) had a fever in 3972 patient enrollment and this was followed by electrical burns (n = 304, 7.7%), scalds (n = 207, 5.2%) and chemical burns. The majority of patients (n = 2958; 74.5%) were aged between 16 and 40 years. Most of the cases have been reported accidentally, but in the past five years suicide and homicide have increased. After a successful recovery, 64.2% were discharged at home. Overall mortality rate was 31.2% in the last 5 years. However, due to better treatment procedures and improved conditions in the hospital, the mortality rate declined to 28.1% in 2010 from 35.3% in 2009.**Conclusion:** Most of the hospitalized burns were adult males. While most burns accidentally come to the foreground, intentional burns only occur in a small percentage. Fire burns were the dominant form of injury. Mortality was 31.2%.**Key words:** Burned patients mortality, burn etiology, burn type.**Corresponding author:****Mariam Ilyas,**

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## INTRODUCTION:

Burns are a type of injury caused by electricity, heat, light, chemicals, friction and radiation. Burns continue to be the major public health issue in developing countries. Injuries by burn has the most destroying effect of all burn injuries and can sometimes become a severe public health crisis globally. 90% of burns approximately occurred in underdeveloped countries, which do not have generally Burn Units. Burns' death and consequences are fundamentally dependent on the type of burn and age. Burnout injuries are not taken into account in time for management. If the results are disastrous or life-threatening or if the victim is alive, physical deformities and shape are needed to reduce the severity and severity of burns. disorder may develop. Burning mortality was high in developing countries such as Nigeria. Deaths from burns have declined significantly due to better and timely management than in developed countries 12.12. To reduce the risk of injury from accidental burns, we must identify specific epidemiological variables such as sex, age, injury and type of burn to determine risk in population. We can raise awareness and plan among people to lower risk factors. To that end, we plan to do a study in the Burns Center and Plastic surgery department of Allied Hospital, Faisalabad to assess the epidemiology and outcomes of patients over the past five years.

## MATERIALS AND METHODS:

The study was conducted at the Plastic surgery and burn unit of Allied Hospital, Faisalabad for the period of three year from March 2013 to March 2016. Retrospective charts based on favorable sampling were reviewed to assess the epidemiological aspects of burn patients to refer to Burns Center and Plastic surgery department of Allied Hospital, Faisalabad and to determine the outcomes (discharge and mortality) of patients. In the last five years records of this work have been selected for all admissions (n = 3972) in the Burns Center and Plastic surgery department of Allied Hospital, Faisalabad from 2013-2016. Epidemiological variables such as age, type of burns, burn mode and patient outcomes were recorded and analyzed using version 15.0 of SPSS. Percentages and Frequency have been developed for variables methodology.

## RESULTS:

During the three years (2013-2016), a total of 3972 patients entered the embalming service of the Faisalabad Civil Hospital. Of these, 1740 (43.8%) were female and 2232 (56.2%) were male. The M:F ratio was 1: 0.8. By the age groups of patients, 544 (13.6%) patients between 0-15 years (ie children).

The majority of patients (n = 2958; 74.5%) were aged between 16 and 40 years. (49.3%, 37.7%) increased in 2009 to 2006. Burns frequency in women decreased slightly in 2010. (Table I), most patients (n = 3139; 79.0%) had burns after burns and electrical burns (n = 304, 7.7%), poppy (n = 207, 5.2%) and chemical burns (n = 119, 3.0%).

**Table 1: Age and gender distribution of the patients (n=3972)**

Age groups	2006	2007	2008	2009	2010	Total	%
0-15 years	40	40	98	169	197	544	13.6%
16-20 years	128	150	158	196	189	821	20.7%
21-30 years	231	285	301	336	327	1480	37.3%
31-40 years	101	121	124	155	154	655	16.5%
41-50 years	30	34	49	68	71	252	6.3%
51-60 years	22	29	37	23	27	138	3.6%
61 +	5	17	28	24	8	82	2.1%
<b>Total</b>	<b>557</b>	<b>675</b>	<b>795</b>	<b>970</b>	<b>975</b>	<b>3972</b>	<b>100.0%</b>
<b>Gender</b>							
Male	347	371	444	492	578	2232	56.2%
Female	210	304	351	478	397	1740	43.8%
<b>Total</b>	<b>557</b>	<b>675</b>	<b>795</b>	<b>970</b>	<b>975</b>	<b>3972</b>	<b>100.0%</b>

The number of fire burns increased from 500 in 2013 to 800 in 2014, but lower to 651 in 2015. However, the number of burns and burns continued to increase between 2006 and 2010. (Table II).

**Table 2: Year wise Types of burn distribution among patients (n=3972)**

Types of burn	2006	2007	2008	2009	2010	Total	%
Fire burns	494	595	645	754	651	3139	79.0%
Electrical burns	36	46	48	68	104	304	7.7%
Scald	9	13	42	52	91	207	5.2
Chemical burns	17	16	25	20	41	119	3.0
Others	1	3	35	76	26	203	5.1%
<b>Total</b>	<b>557</b>	<b>675</b>	<b>795</b>	<b>970</b>	<b>975</b>	<b>3972</b>	<b>100.0%</b>

When burn injuries were handled, most of the cases were accidental. However, suicide and homicide cases increase in three-year duration. According to the hospital results, 2560 (64.02%) were discharged in a satisfactory manner. However, 170 cases were admitted in Civil Hospital after LAMA to other departments (absence despite medical advice) and 11 cases (0.4%) after appropriate treatment. 170 cases were reported as LAMA could be transferred to other hospitals.

**Table 3: Year wise Major cause of burn (n=3972)**

Cause of burn	2006	2007	2008	2009	2010	Total	%
Accidental	533	671	784	944	929	3861	97.2%
Suicidal	17	4	10	22	42	95	2.4%
Homicidal	7	0	1	4	4	16	0.4%
<b>Total</b>	<b>557</b>	<b>675</b>	<b>795</b>	<b>970</b>	<b>975</b>	<b>3972</b>	<b>100.0%</b>

Mortality rate in all was 31.2% in the last 3 years. However, death was reduced by 28.1% in 2013 and by 35.3% in 2014.

**DISCUSSION:**

Like other underdeveloped countries, the incidence of burns in Pakistan is very high. Burning in Faisalabad, the largest and most populous city in the country, is the leading cause of deaths. Every day at least 8 to 10 burn patients are taken to the Burns Ward Civil Hospital and most of them are burned on the third degree body surface. The most common causes of burn injuries are related to the widespread use of Liquefied Petroleum Gas. (LPG) cooking at home, preparing electricity at home, using chemicals at home, preparing food at ground level for children with large numbers of children and large families. It is also due to lack of awareness and poorly defined preventive measures. Burn is one of the fundamental problems that threaten public health in developing countries, and burn injuries are among the most devastating injuries and a major global public health crisis. Approximately 90 percent of burns are regions that do not have the necessary infrastructure to reduce the incidence and severity of burns in low- and middle-income countries. In our study, 79% of the cases had fire burns. A similar study in India in 2001 reported more than 163,000 fire-related deaths, representing approximately 2% of all deaths.<sup>15</sup> In our study, the majority of patients belonged to younger age groups. According to a study in Aligarh, India, the majorities of patients referred to the JNMC Hospital were in the AMU Aligarh group, aged 13-25, followed by the age group of 26-39. 21% of the patients were children and 79% were adults.<sup>16</sup> A study was conducted in 2008 in a university hospital in South India, showing that the majority of the affected population in 150 patients belonged to the 25-year-old group. Until the age of 34. . There were 62 men (41.3%) and 88 women (58.7%). Their ages range from 3 to 59 years for men and between 4 and 75 years for women.

The results of our study set the age group that was most affected to be 16-30; 57% of the total cases. Recently, an epidemiological study has been conducted between 2003 and 2007 in Taleghani Hospital in Iran, where children under 10 years of age and adults aged 10 to 20 years were identified as two groups with high risk of burn injury. The study was at the highest rate of accidental burning, ie 97%. However, in our study, mortality was much higher at 31%, worrying and a question for hospital management. In a study conducted in Northern Trinidad 2003, 36 patients were female and 27 were male in 63 patients. Approximately 61% of the burns were kept at home, but occupational burns were up to 25%. The most common etiology was hot fluid burn. The overall mortality of burn patients was 7.9%.<sup>19</sup> In another study in Hong Kong in 1990, a 12-month

study was conducted in 7 large hospitals with 8479 patients. Accordingly, 70% of the cases fell in the 15-34 age group with male domination. 93% of the children and 93% of the adults were local and professionally. The standards of developed countries can not be reached in all the results. In this densely populated city of Faisalabad, more burning centers need to be developed and more centers can be provided to reduce mortality.

**CONCLUSION:**

Most of the hospitalized burns were adult males. While most burns accidentally come to the foreground, intentional burns only occur in a small percentage. Fire burns were the dominant form of injury. 31.2% was Mortality rate.

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