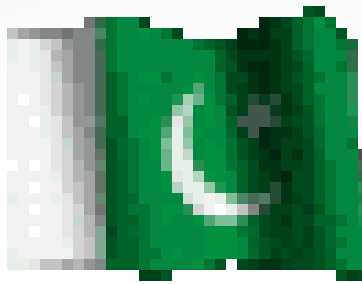




**PATEL HOSPITAL**  
A Project of Patel Foundation



# **ANALYSIS AND OUTCOME OF INFANTILE BURN**

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# OBJECTIVE

The aim of this study is to determine the

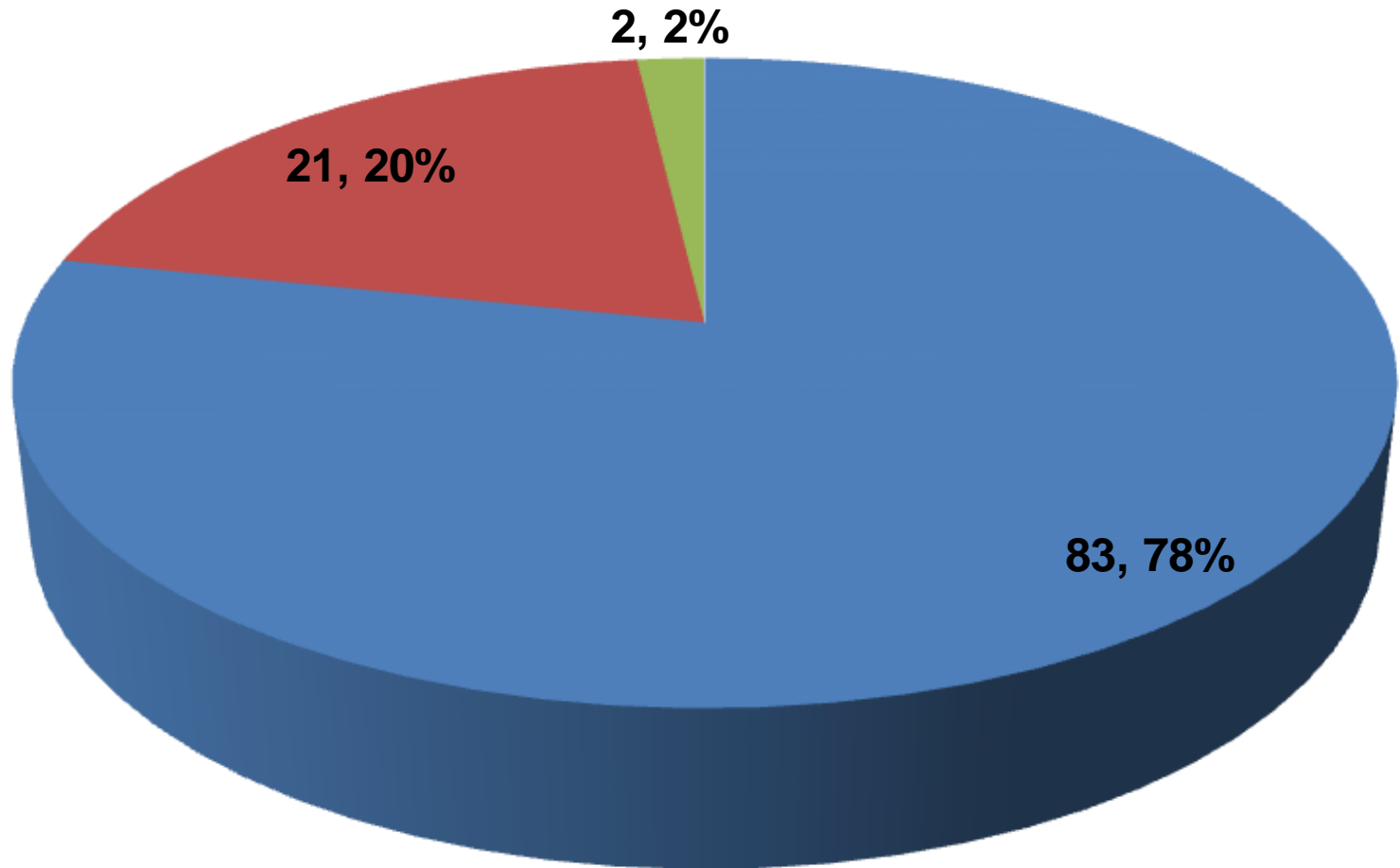
- **Incidence.**
- **Causes.**
- **Nature of injury.**
- **Length of stay.**
- **Outcome of infants with burn.**

**TOTAL NO: 1862**  
**UPTO 15 YEARS: 789 (42.4%)**  
**INFANTS: 106 (13.4%)**



# Categories of Infantile Burn

■ Scald ■ Fire ■ Chemical



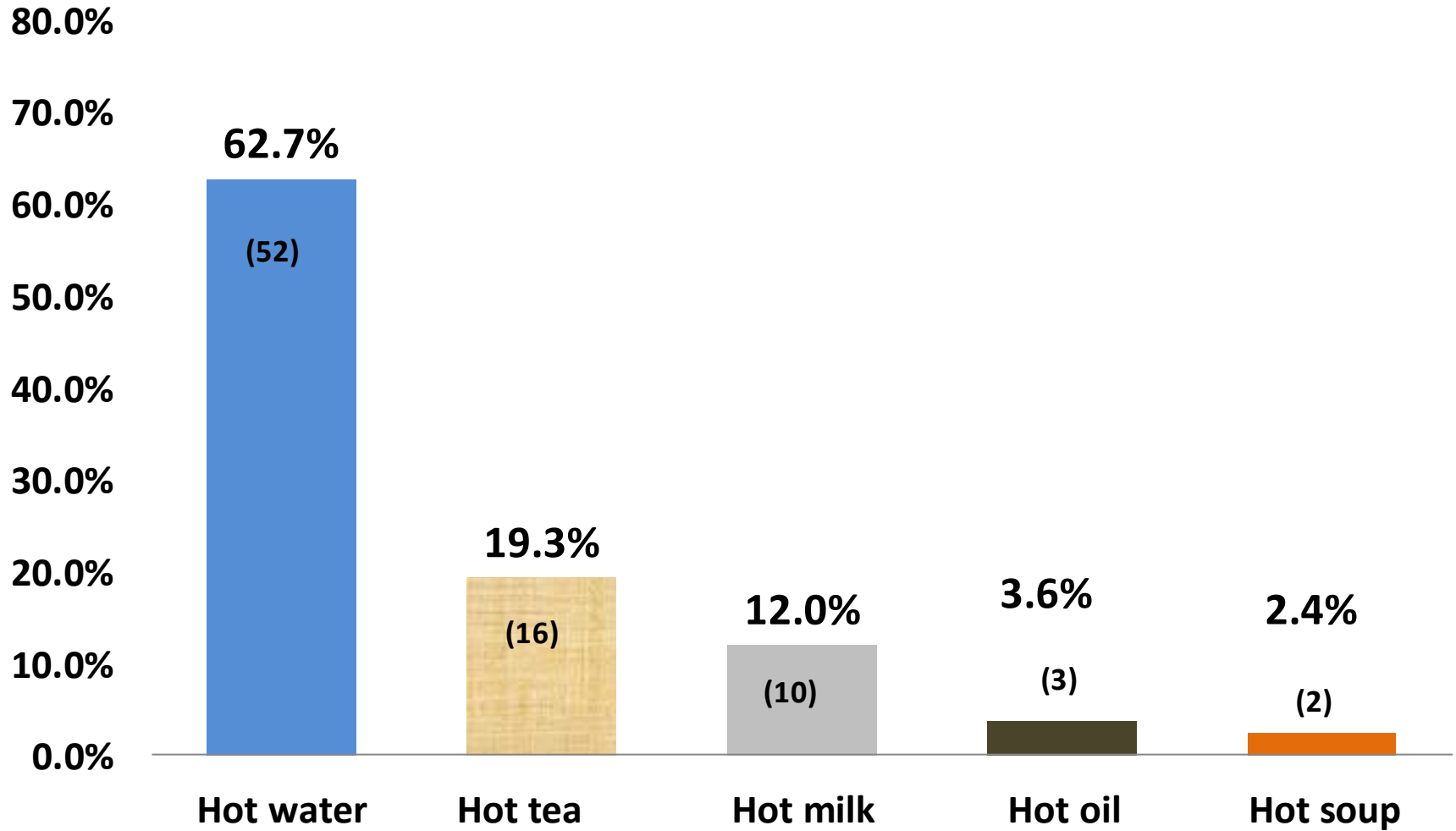
**Male to female ratio 1.5:1**

**Mean age of admission: 7.98±4.68 months.**

**Lowest recorded age: Twenty one days.**

**Maximum age: 11 months and twenty days.**

# Causes of scald burn (n=83)



# TOTAL BODY SURFACE AREA BURN

TBSA (%)	Scald		Fire		Chemical		Total	
	No	(%)	No	(%)	No	(%)	No	(%)
< 10	32	38.6	9	42.8	1	50	42	39.6
10-19	34	41	8	38.1	1	50	43	40.6
20-29	11	13.2	1	4.8	-	-	12	11.3
30-39	4	4.8	-	-	-	-	4	3.8
40-49	1	1.2	-	-	-	-	1	0.9
50-59	-	-	-	-	-	-	-	-
60-69	-	-	2	9.5	-	-	2	2
70-79	-	-	-	-	-	-	-	-
80-89	1	1.2	-	-	-	-	1	0.9
>90	-	-	1	4.8	-	-	1	0.9
<b>Total</b>	<b>83</b>	<b>100</b>	<b>21</b>	<b>100</b>	<b>2</b>	<b>100</b>	<b>106</b>	<b>100</b>

- **In Middle Eastern countries the mean total body surface area burnt among all ages was found to range from 10% to 48%.**

Othman N, Kendrick D. Epidemiology of burn injuries in the East Mediterranean Region: a systematic review. Journal BMC Public Health. 2010;10:83.

- **In the US and Canada 62% of all patients had less than 10% TBSA affected.**

Miller SF, Bessey PQ, Schurr MJ, Browning SM, et al. National Burn Respository 2005:a ten-year review. Journal of burn care & research. 2006; 27(4):411-36.



**8 months old child with history of fall in hot water suffered 27% scald burn.**



**11 months old baby with history of fall in hot water bucket and suffered 29% burn.**







**40 days old neonate with 19% fire burn .**



**5 months old infant 23% scald burn.**

# DEGREE OF BURN

Degree of burn	Scald		Fire		Chemical		Total	
	No	(%)	No	(%)	No	(%)	No	(%)
Second degree	62	75	12	57.1	1	50	75	70.8
Third degree	10	12	3	14.3	1	50	14	13.2
Second and third degree	11	13	6	28.6	-	-	17	16
Total	83	100	21	100	2	100	106	100
P- Value	<0.001*		0.011		-		<0.001*	

# Common sites of involvement

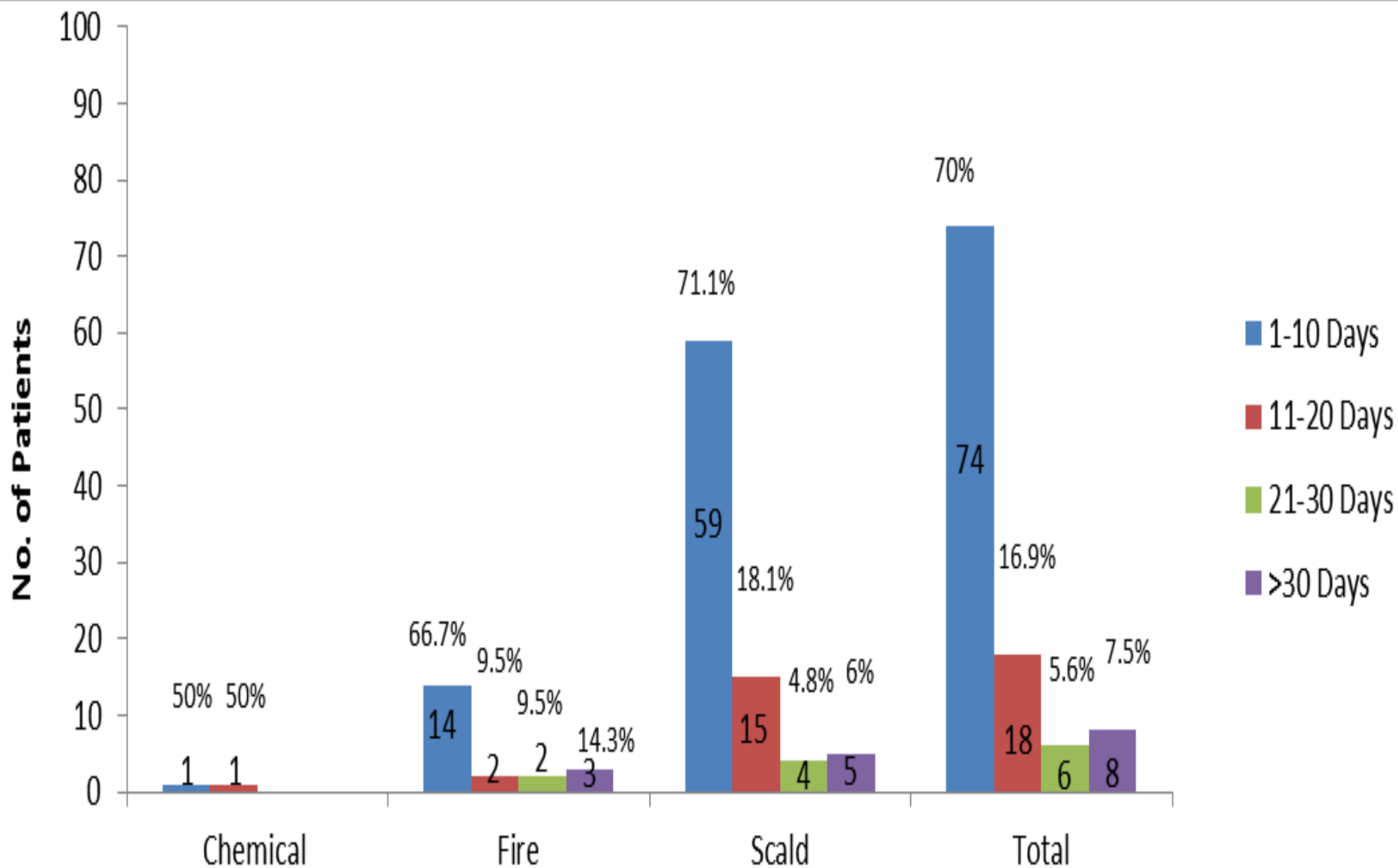
## Scald Burn

- ❖ Chest wall 52 (62.7%).
- ❖ Multiple sites of lower limb 23 (28%).
- ❖ Upper arm 23 (28%).
- ❖ Face, head and neck 22 (26.5%).

## Fire burn

- ❖ Multiple sites of lower limb 10 (47.6%).
- ❖ Chest wall 8 (38%).
- ❖ Upper arm 7 (33.3%)
- ❖ Face, head and neck 5 (23.8%).

# LENGTH OF STAY



- **In 1997 the average length of hospital stay in Kuwait was 16 days.**

Prasanna M, Thomas C. A profile of methicillin resistant Staphylococcus aureus infection in the burn center of the Sultanate of Oman. Burns 1998;24:631-6.

- **According to the National Burn Repository data for 2005, the mortality rate in USA was 4.67% and ALOS was 8.22 days.**

Saffle JR, Davis B, Williams P. Recent outcomes in the treatment of burn injury in the United States: a report from American Burn Association Patient Registry. Journal Burn Care Rehabil 1995; 16:219-32.

- **The hospital stay was directly related to TBSA , in another study from Hong Kong, the mean hospital stay was 7.4 days.**

Tse T, Poon CH, Tse K-H, Tsui T-K, Ayyappan T, Burd A. Paediatric burn prevention:an epidemiological approach. Burns 2006;32:229-34.

# Length of stay in scald burn in relation to Total body surface area

Length of stay in days	Total body Surface area (TBSA)							Total	Mean±SD
	< 10%	10-19%	20-29%	30-39%	40-49%	80-89%			
	(n= 32) n %	(n= 34) n %	(n =11) n %	(n =4) n %	(n =1) n %	(n =1) n %	(n =83) n %		
1-10	30 93.8	22 64.7	2 18.2	3 75	1 100	1 100	59 71.1	4.89±2.82	
11-20	2 6.3	8 23.5	5 45.5	0	0	0	15 18.1	11.21±6.17	
21-30	0	2 5.9	2 18.2	0	0	0	4 4.8	23.25±2.87	
>30	0	2 5.9	2 18.2	1 25	0	0	5 6	35.2±2.77	
Total	32 100	34 100	11 100	4 100	1 100	1 100	83 100	18.63±13.41	
P-value	Chi-square=28.89, P-value=0.017*								

# Length of stay in fire burn in relation to total body surface area

Length of Stay in days	Total body Surface area (TBSA)						Mean±SD
	< 10%	10-19%	20-29%	60-69%	>90	Total	
	(n= 9)	(n= 8)	(n =1)	(n =2)	(n =1)	(n =21)	
	n %	n %	n %	n %	n %	n %	
1-10	7 77.8	4 50	0	2 100	1 100	14 66.7	4.07±2.52
11-20	0	1 12.5	1 100	0	0	2 9.5	15.5±0.7
21-30	1 11.1	1 12.5	0	0	0	2 9.5	24±2.82
>30	1 11.1	2 25	0	0	0	3 14.3	56.6±39.31
Total	9 100	8 100	1 100	2 100	1 100	21 100	25.04±22.56
P-value	Chi-square=13.23 P-value=0.352						

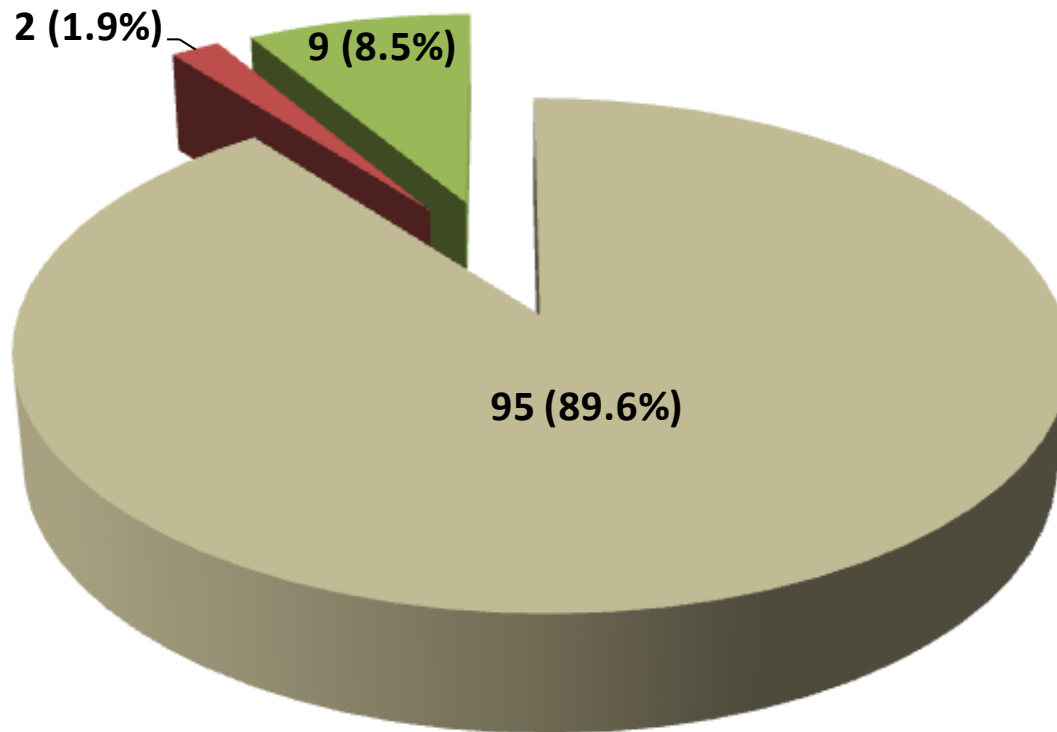


# LENGTH OF STAY IN RELATION WITH DEGREE OF BURN

	Second degree of burn			Third degree burn			Second and third degree burn											
Length of stay in days	Scald		Fire		Chemical		Scald		Fire		Chemical		Total					
	(n =62)		(n =12)		(n =2)		(n =10)		(n =3)		(n =0)		(n=106)					
	n	%	n	%	n	%	n	%	n	%	n	%	n	%				
1-10	46	74.2	9	75	1	50	7	70	3	100	0	6	54.5	2	33.3	0	74	70
11-20	11	17.8	2	16.7	1	50	2	20	0	0	0	2	18.2	0	0	0	18	16.9
21-30	3	4.8	0	0	0	0	0	0	0	0	0	1	9.1	2	33.3	0	6	5.6
>30	2	3.2	1	8.3	0	0	1	10	0	0	0	2	18.3	2	33.3	0	8	7.5
Total	62	100	12	100	2	100	10	100	3	100	0	11	100	6	100	0	106	100

# Outcome of 106 Infantile Burn

■ Discharged ■ LAMA ■ Expired



**The mortality rate in our study was 8.5% and is similar to those reported in Turkey and China; however, it is higher than that reported in other countries.**

Liao CC, Rossignol AM. Landmarks in burn prevention. *Burns*. 2000 Aug;26(5):422-34.

Kai-Yang L, Zhao-Fan X, Luo-Man Z, et al. Epidemiology of Pediatric burns requiring hospitalization in China: a literature review of retrospective studies. *Pediatrics*. 2008 Jul;122(1):132-42.

Tse T, Poon CH, Tse K-H, et al. Pediatric burn prevention: an epidemiological approach. *Burns*. 2006; 32(2):229-34.

Sakallioglu AE, Basaran O, Tarim A, et al. Burns in Turkish children and adolescents: nine years of experience. *Burns*. 2007 Feb;33(1):46-51.

# FOLLOW UP

- ❖ **2 infants required reconstructive and cosmetic facial surgery (nose and ears) due to fire burn.**
- ❖ **7 (7.4%) developed contractures for which reconstructive surgical procedures were done.**
- ❖ **We provided special care regarding the nutrition of the infants with the help of nutritionist and detail feeding advice was given to every parent at the time of discharge and on follow up.**
- ❖ **Growth and development was monitored at time of follow up.**

# CONCLUSION

- ❖ **Burn injury is an important public health concern and is associated with high morbidity and mortality.**
- ❖ **Infantile burn injuries can be decreased and prevented by educating parents through seminars, posters and print media.**
- ❖ **In this aspect electronic media can play an important role along with social welfare organizations and housing department.**

# RECOMMENDATIONS

- ❖ **Take care while drinking hot liquid(such as coffee, tea) when holding an infants and never be left at their disposal even for a minute.**
- ❖ **Always keep handle of all pots and pans in the kitchen turned toward the back of the stove.**
- ❖ **When your infants start walking, extra care is required with hot water for baths or for any other reason.**
- ❖ **Prior check of the temperature of the bath water is necessary before your child gets into the tub.**
- ❖ **Use cool humidifiers, not hot steam vaporizer. A vaporizer can cause severe burns if an infant overturn it or put his face close to it.**
- ❖ **Electric sockets and open wires should be covered.**
- ❖ **Keep fire, matches and lighters out of the reach of children.**
- ❖ **Avoid smoking cigarettes especially in bed.**
- ❖ **Do not leave lit candles unattended.**



# THANK YOU



NO ONE CAN imagine life  
HAVING THEIR OWN children.

BUT WHEN THEY ARE born,  
NO ONE CAN imagine life  
WITHOUT them.

