



EVALUATION OF THE EPIDEMIOLOGY OF BURN INJURIES OF THE ELDERLY ADMITTED TO VELAYAT HOSPITAL FROM 2010 TO 2020

MD THESIS DEFENSE

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ADDITIONAL INFORMATION

- MD Thesis.
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- Statistical Analysis by Dr. Reza Zarei
- Clinical Research Development Unit of Poursina Hospital.
- Approval ID: IR.GUMS.REC.I398.37

CHAPTER ONE

- Introduction to Burn Injuries among the Geriatric Population.
- Age-related comorbidities.
- Guilan: Oldest province in the last 15 years.
- Velayat Burn Center: Providing burn care services for an annual admission of nearly 700 patients.

Iran (Islamic Republic of)

	1950	1970	1990	2000	2005	2010	2015	2020	2030	2050	2075	2100
Population												
Total population (thousands)	17 119	28 514	56 366	65 623	69 762	73 763	78 492	83 993	92 664	103 098	102 987	98 588
Median age (years) (a)	21.9	17.7	17.2	21.2	24.1	27.0	29.7	32.0	36.2	40.2	45.0	47.4
Population under age 15 (thousands).....	6 210	12 577	25 676	22 288	18 762	17 736	18 744	20 784	20 876	18 221	16 156	14 715
Population aged 15-24 (thousands).....	3 317	5 232	10 522	15 979	17 632	15 857	12 493	11 086	13 021	12 104	11 893	10 403
Population aged 25-64 (thousands).....	6 689	9 762	18 313	24 482	30 046	36 373	42 696	46 609	49 917	51 985	49 816	44 585
Population aged 65+ (thousands).....	903	943	1 855	2 875	3 323	3 797	4 559	5 514	8 849	20 788	25 121	28 884
Percentage of population under age 15	36.3	44.1	45.6	34.0	26.9	24.0	23.9	24.7	22.5	17.7	15.7	14.9
Percentage of population aged 15-24.....	19.4	18.4	18.7	24.4	25.3	21.5	15.9	13.2	14.1	11.7	11.6	10.6
Percentage of population aged 25-64.....	39.1	34.2	32.5	37.3	43.1	49.3	54.4	55.5	53.9	50.4	48.4	45.2
Percentage of population aged 65+.....	5.3	3.3	3.3	4.4	4.8	5.2	5.8	6.6	9.6	20.2	24.4	29.3

Table : United Nations, Department of Economic and Social Affairs Population Dynamics, World Population Prospects 2019

CHAPTER TWO

Similar Studies

Authors	Year/ Country	Sample Size	Abstract
Johnathan Bayo et. al	Ghana, 2018	618	<p>Out of the 618 admissions during 7 years, patients aged 60 years and above (5.0%). Burn injuries were commonest among the <u>60–69 year</u> group (45.2%). A greater proportion of older adults in the study were farmers (38.7%). The year 2011 recorded the highest admission and death but mortality rates were equally high in all years represented in this study except in 2010. The <u>mean age was 69.74 years</u>. Though more <u>females (67.7%)</u> than <u>males (32.3%)</u> were involved in burn injuries, mortality was marginally higher in males than females. Thermal burns resulting from gas explosion (51.60%) and bush fires (22.60%) were major a etiological factors. Logistic regression analysis indicated that <u>increasing age (p = .002)</u> and <u>increasing TBSA (p < .001)</u> were associated with higher mortality rates.</p>

CHAPTER TWO *(CONTINUED)*

Authors	Year/ Country	Sample Size	Abstract
Yong Liu et. al	China, 2018	103	<p>A total of 103 patients, <u>mean age 69.5 years</u> (range 60–95 years; <u>58 male, 45 female</u>) were admitted during <u>6 years</u>. The most common causes of burn were <u>flames (51.5%), scalding (37.9%),</u> electrical (4.9%) and chemical (2.9%), respectively. The majority occurred <u>at home (68.9%),</u> principally in the kitchen (35.9%), while 19.4% occurred in the workplace. Burns with total body surface area (TBSA) of 0–10% accounted for 52.5% of those admitted for treatment; 10–30% TBSA burns accounted for 20.3%; 30–50% TBSA burns accounted for 15.5%; and burns with a TBSA >50% accounted for 11.7%. Only 6% of patients received appropriate first aid, and 32% did not receive treatment until more than 24 h after injury. The education level was lower in the rural group. Both urban and rural groups had little knowledge of first aid for burns.</p>

CHAPTER TWO *(CONTINUED)*

Authors	Year/ Country	Sample Size	Abstract
Emami et. al	Iran, 2016	187	For <u>2 years</u> , >28,700 burn patients were recorded, 1721 of whom were admitted. Among them, 187 <u>patients were ≥55 years old</u> . Sixty-nine percent of patients were <u>male</u> and 31% female, with a <u>male to female ratio of 2.22:1</u> . The mean ± standard deviation (SD) of age <u>was 63.4 ± 8.1</u> . The cause of burns was <u>flame (58.2%) and scalds (20.3%)</u> . Most of the burns were sustained <u>at home</u> . The mean duration of hospital stay was <u>19.5 days</u> (range 3–59 days). The mean (SD) of the total body surface area (TBSA) was <u>20.3% (8.4%)</u> . The median hospital stay (length of stay (LOS)) was 11 days (SD = 14). The <u>increase in TBSA was related to a longer LOS</u> ($p < 0.02$).

CHAPTER THREE

- Retrospective analysis of Admitted burn patients; a total of 701 patients over 60 years-old.
- Study Sample, from January 2010 to January 2020.
- Minimum Sample size: 377 patients.
- Ethics Code: IR.GUMS.REC.1398.37
- Data Gathered Using the following Questionnaire:

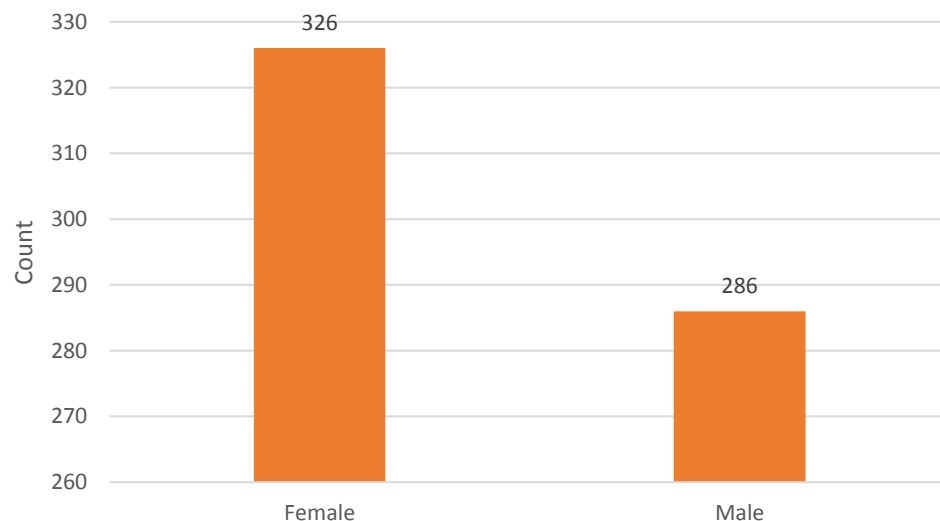
Demographics	Serial Number
	Age
	Sex
	Marital State
	Occupation
Burn Characteristics	Residency
	TBSA
	Burn Degree
	Burn Agent
	Inhalation Injury
	Date of the injury
	Place of the injury
In-Hospital Events	Anatomical Site
	LOS
	Surgical Management
	Outcome

CHAPTER FOUR (DESCRIPTIVE RESULTS)

Demographics:

Age: Mean: 72.20 , Standard Deviation: 8.94 , lowest: 60 , Highest: 94.

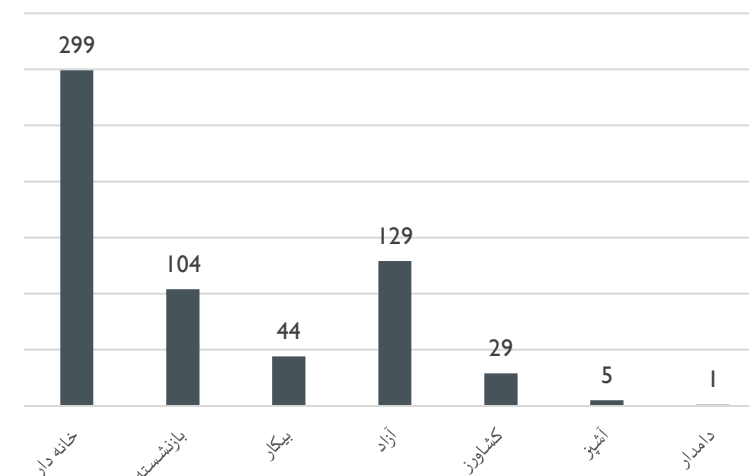
Sex:



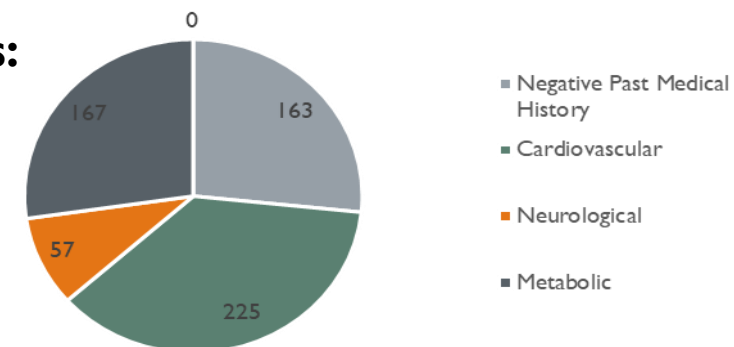
Marital State: 94.9% Married, 5.1% single.

Residency: Urban: 59.3% , Rural: 40.7%.

Occupation:



Comorbidities:

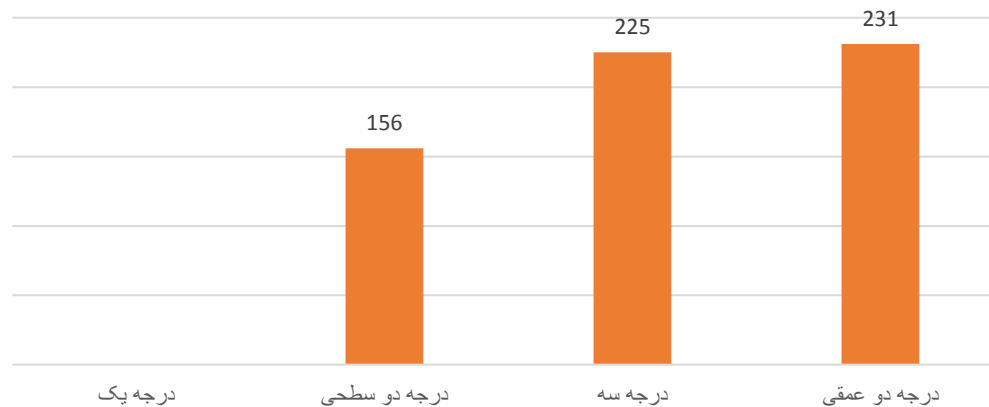


CHAPTER FOUR (DESCRIPTIVE RESULTS)

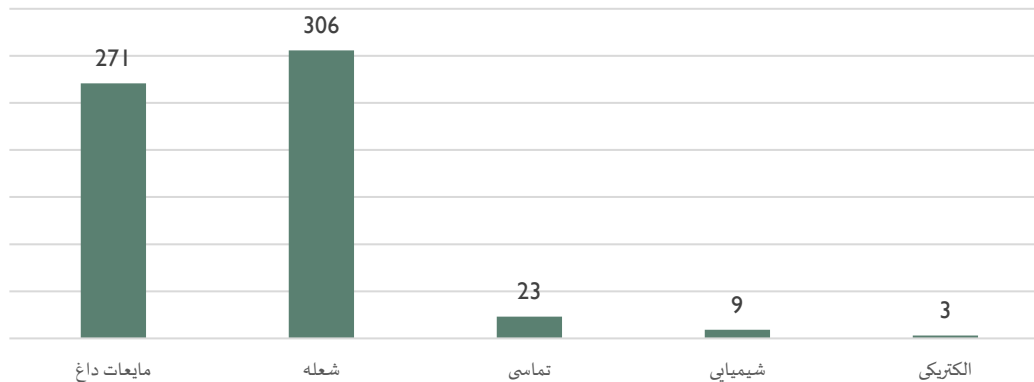
■ **Burn Characteristics:**

TBSA: Mean: 19.70 , Standard Deviation: 22.13 , most of which were between 1-20%

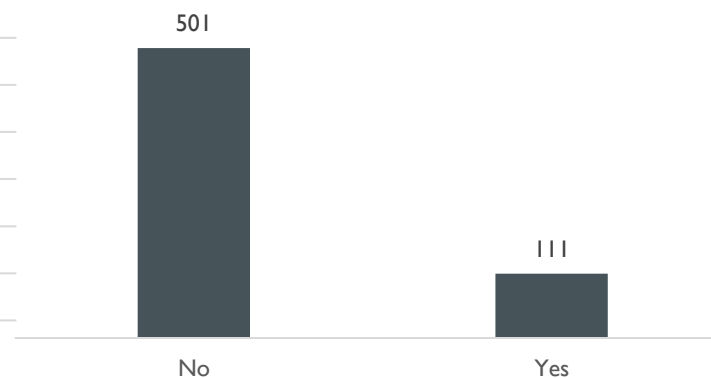
Burn Degree:



Burn Agent:

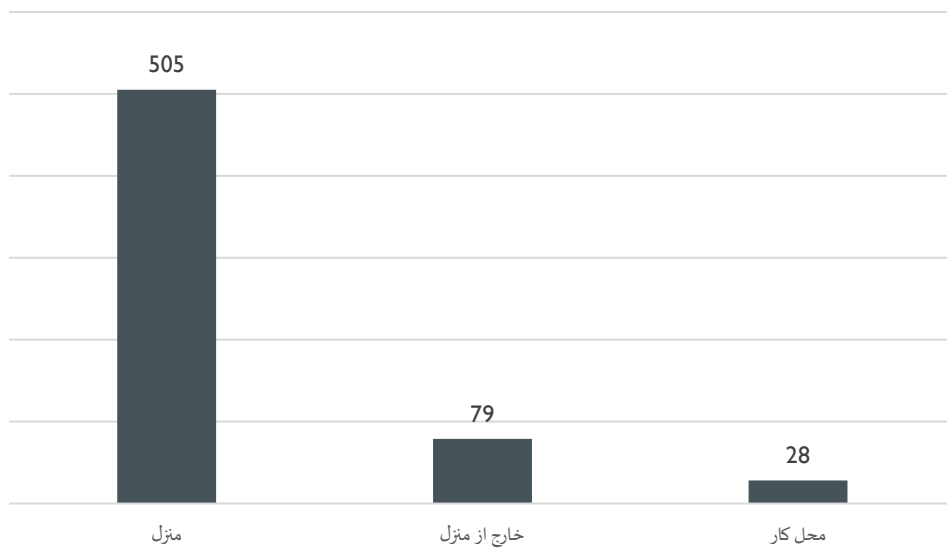


Inhalation Injury:

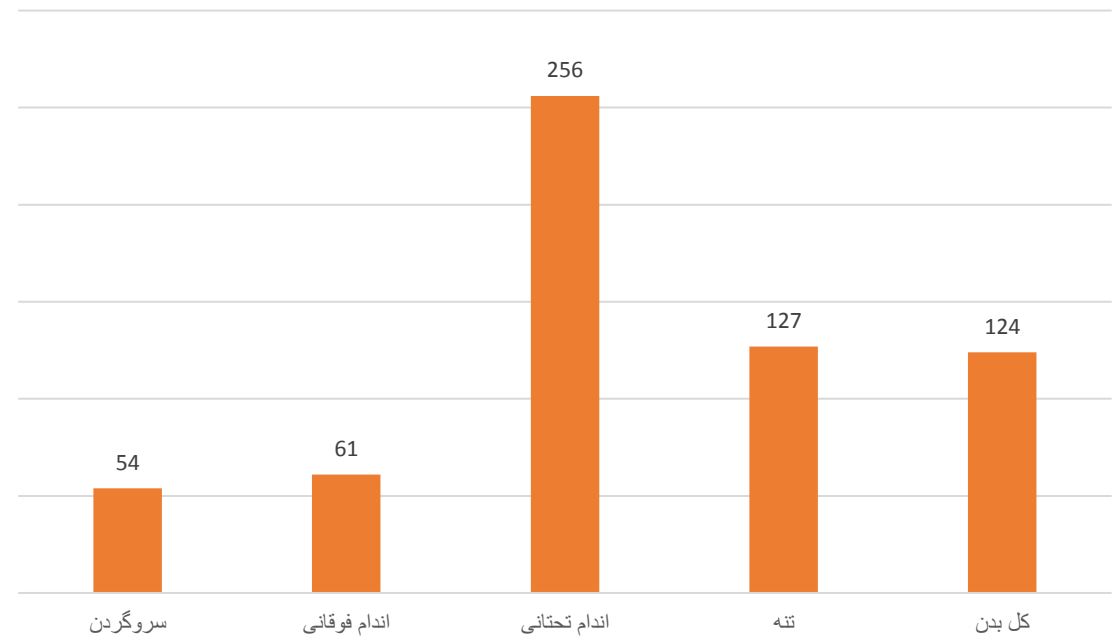


CHAPTER FOUR (DESCRIPTIVE RESULTS)

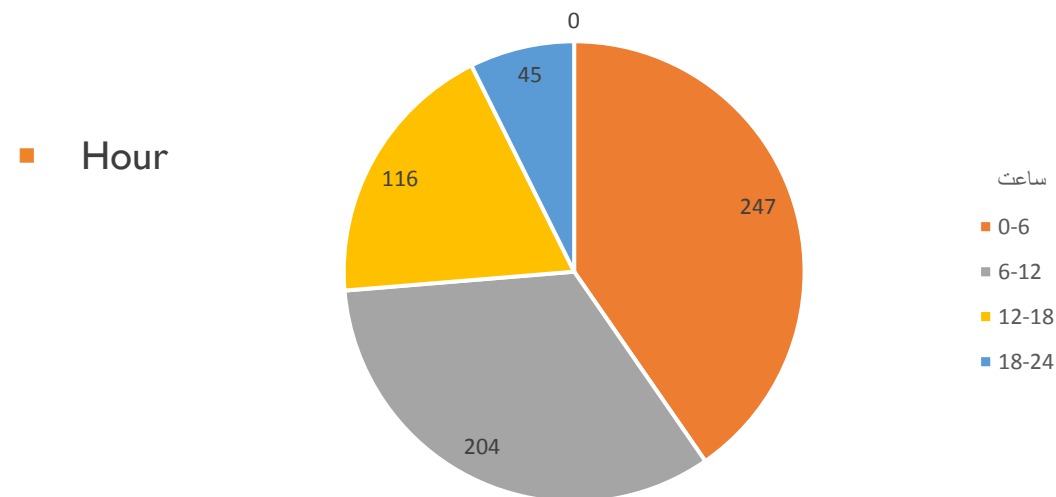
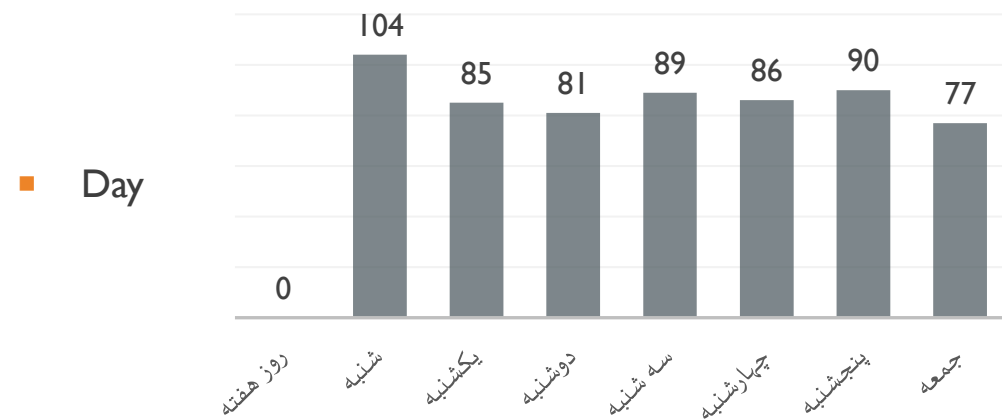
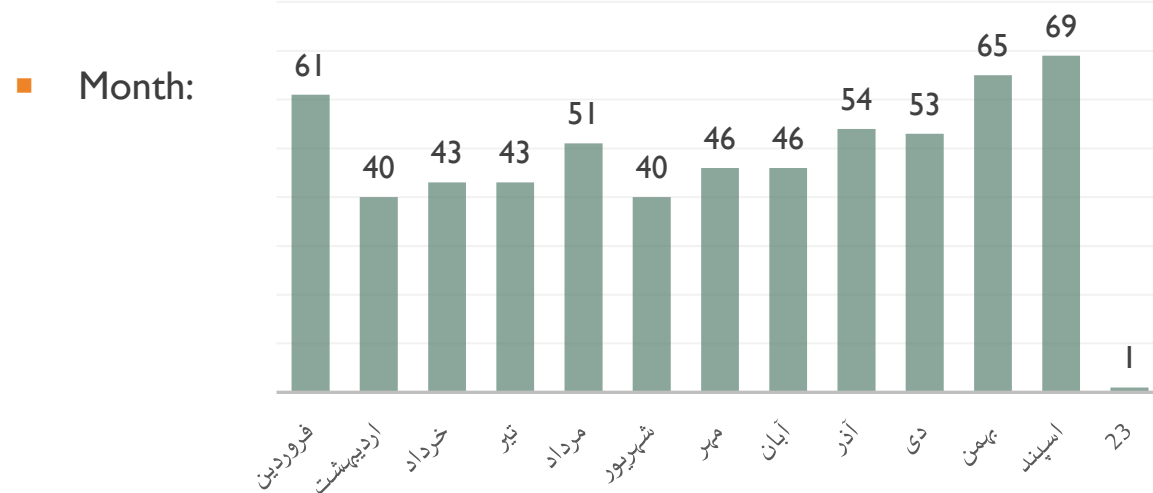
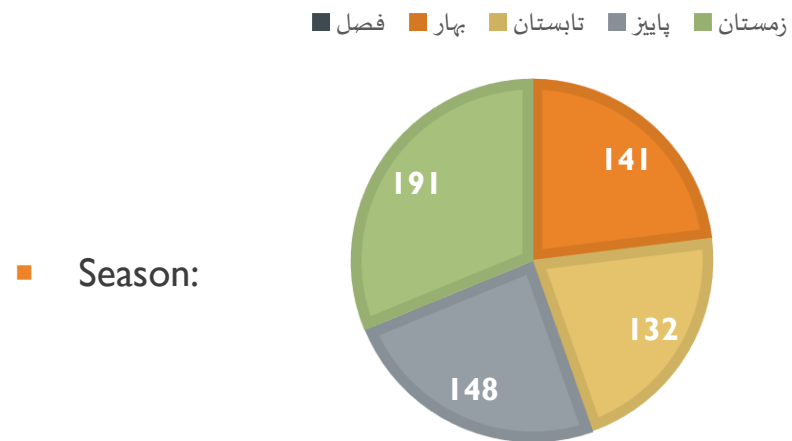
■ Place of the Injury:



■ Anatomical Site of the Injury:



CHAPTER FOUR (DESCRIPTIVE RESULTS)



CHAPTER FOUR (DESCRIPTIVE RESULTS)

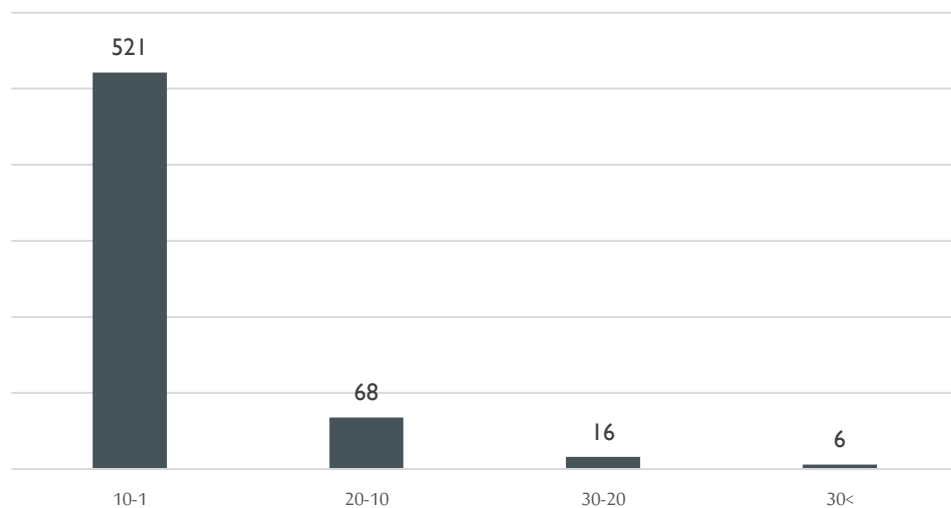
■ *In-hospital Events:*

Length of Hospital Stay (LOS):

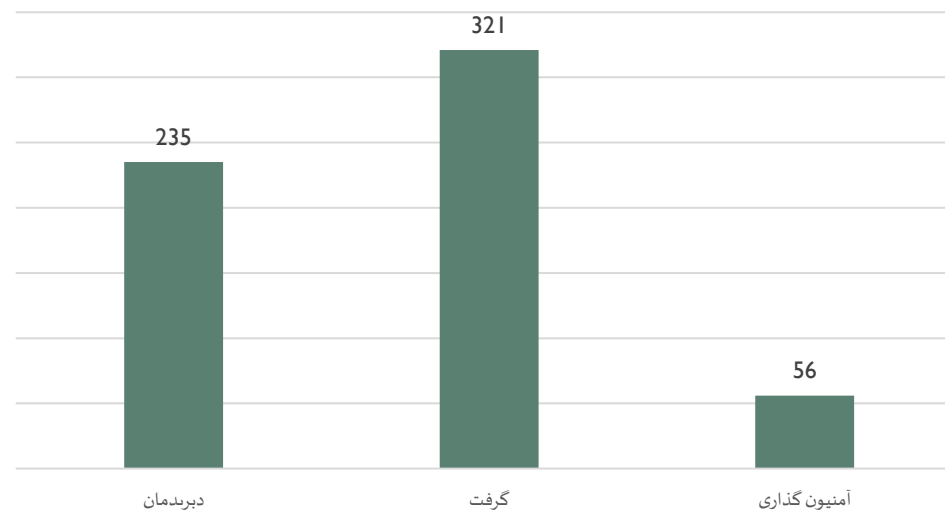
Mean: 6.14

Standard Deviation: 6.28

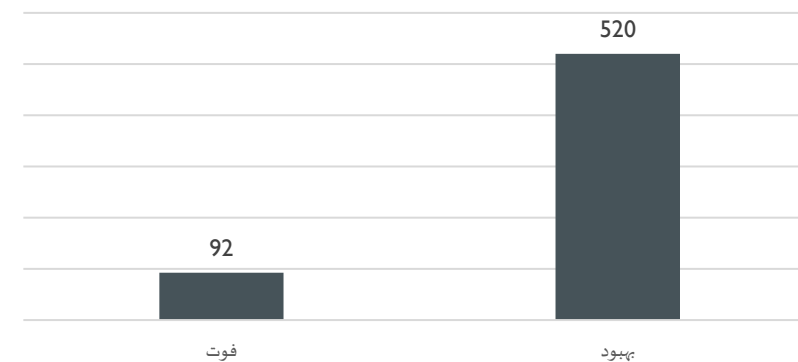
Shortest: 1 day, Longest: 47 days



Surgical Management:



Outcome:



Different Parameters in the Deceased

Parameter		Percentage
Mean age (yrs)	75.16±9.58	
Gender	Female	47.8%
	Male	52.2%
Mean TBSA (%)	55.48±28.79	
Mean LOS (days)	8.43±7.44	
Etiology	Flame	83.7%
	Scald	12%
	Contact	2.2%
	Chemical	1.1%
	Electric	1.1%
Surgery	Debridement only	76.1%
	Early skin grafting	22.8%
	Amniotic membrane	1.1%
Pre-injury medical condition	Negative	19.6%
	Cardiovascular diseases	39.1%
	Metabolic diseases	22.8%
	Neurologic diseases	18.5%
Burn degree	Superficial second	13%
	Deep second	43.5%
	Third	43.5%
The anatomic site of injury	Head and neck	5.4%
	Trunk	16.3%
	Upper limb	3.3%
	Lower limb	9.8%
	Whole-body	65.2%

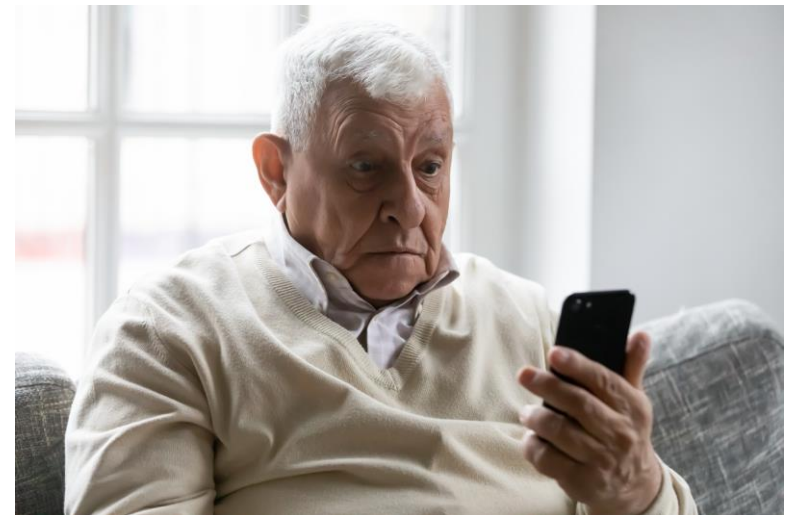
Variable		outcome			
		Total (%)	Died (N=92)	Survived(N=520)	P-value
Age range (yrs) Mean:	60-69	43.5	30	236	P (value ^a) = <0.001 (12.13)
	70-79	32.2	27	170	
	80-89	21.1	29	100	
	90-99	3.3	6	14	
Gender	Female	53.3	44	282	P (value ^a) =0.256 (1.28)
	Male	46.7	48	238	
Etiology	Scald	44.3	11	260	P (value ^b) = 0.000 (51.75)
	Flame	50.0	77	229	
	Contact	3.8	2	21	
	Chemical	1.5	1	8	
	Electric	0.5	1	2	
TBSA range (%) Mean: 19.70±22.13	1-20	75.0	10	449	P (value ^b) = <0.001 (313.92)
	21-40	14.1	28	58	
	41-60	3.9	16	8	
	61-80	2.6	16	0	
	81-100	4.4	22	5	
Burn Degree	Superficial 2 nd	25.5%	12	144	P (value ^b) = <0.001 (8.85)
	Deep 2 nd	37.7%	40	191	
	3 rd	36.8%	40	185	
LOS (days) Mean: 6.14±6.27	1-10	85.1	69	453	P (value ^b) = <0.001 (12.59)
	11-20	11.1	18	50	
	21-30	2.6	2	14	
	>=30	1.1	3	4	
Surgery	Debridement only	38.4	70	165	P (value ^b) = <0.001 (65.86)
	Skin grafting	52.5	21	300	
	Amniotic membrane	9.2%	1	55	
Anatomical site	Head and Neck	8.8%	5	49	P (value ^b) = <0.001 (141.33)
	Trunk	19.1%	15	102	
	Upper extremities	10.0%	3	58	
	Lower extremities	41.8%	9	247	
	Whole-body	20.3%	60	64	
	a. Pearson Chi-Square; b. Fisher's Exact Test				

CHAPTER FIVE

It would be possible to lower the incidence and overall mortality of burn injuries in the elderly by:

- Lowering the movement of rural inhabitants to urban areas.
- Improving the safety of apartments and nursing homes.
- Educating nurses and parents about the dangers of children spending time alone with their grandparents.
- Warning the health care system about the threats for diabetic patients and patients with heart conditions.

👉 United Nation 2021 Theme for international day of older persons (1st October) : Digital Equity for All Ages.



ORAL PRESENTATION

THE 5TH INTERNATIONAL CONGRESS ON BIOMEDICINE
10TH - 19TH NOVEMBER 2021 - OFFLINE (VIRTUAL CONGRESS)

Main Topics
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Social Health
Medical Biochemistry
Microbiology and Infectious Diseases
Tissue Engineering and Stem Cell
Cancer (Prevention, Diagnosis and Treatment)
Personalized Medicine
Medical NanoBio Technology
Geriatric Medicine

Sub Main Topics
Pharmacy
Metabolism and Metabolic Diseases
Clinical Psychology
Cognitive Neuroscience
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مقالات ارسالی شما

ID مقاله	عنوان مقاله	نوع مقاله	تایید داور	پرداخت هزینه شرکت در کنگره	نتیجه داور نهایی (بررسی نوع ارائه)	وضعیت ارائه	حذف مقاله (قبل از داور)
141	Elderly and burn injuries: a ten-year analysis of 612 patients	پژوهشی داور اولیه	تایید	پرداخت شده	According to referees, your article has been accepted as an Oral in the 5th International Congress on Biomedicine (ICB2021). Please send us your presentation and powerpoint up to 15 October. You can find the guideline for sending your presentation to the secretary of ICB2021 in your user area. Note: Obviously, if you do not submit your presentation, you will not receive a certificate.	فایل ارائه ارسال شده حذف وجود ندارد	امکان حذف وجود ندارد
Help to send presentation (Oral)							



ELDERLY AND BURN INJURIES: A TEN-YEAR ANALYSIS OF 612 PATIENTS

INTERNATIONAL CONGRESS OF BIOMEDICINE (ICB2021)

AUTUMN 2021; IRAN.

PRESENTED BY ZAHRA HAGHANI DOGAHE.




PREPRINT AVAILABLE ON SEARCHSQUARE

RESEARCH ARTICLE

Elderly And Burn Injuries: A Ten-Year Analysis of 612 Patients

> Zahra Haghani Dogahe, Reza Zarei, Shahin Hallaj, Mohammadreza Mobayen

DOI: [10.21203/rs.3.rs-992000/v1](https://doi.org/10.21203/rs.3.rs-992000/v1) [Download PDF](#)

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Abstract

Background: With all the progress made in geriatric medicine, we expect to have a growing population of elderly soon. With burn injuries, as one of the most common unpredictable injuries to the elderly, it is essential to clarify the epidemiological pattern and factors related to worse outcomes in geriatric burn patients. We aimed to investigate burn characteristics in the elderly in Guilan province, IRAN, in ten years.

Methods: This study conducted a retrospective analysis of burn patients aging 60yrs and over in Velayat Burn Center between 2010 and 2020. The data collected from the hospital information system included age, sex, marital state, occupation, residency, season and month of the incident, place of incident, total body surface area (TBSA), burn degree,



BADGES



Prescreen

PEER REVIEW TIMELINE

CURRENT STATUS: **UNDER REVIEW**

Version 1

Posted 25 Oct, 2021

 No community comments so far

 Editor invited
On 21 Oct, 2021

 Submission checks complete
On 21 Oct, 2021


 First submitted
On 18 Oct, 2021



Photo by Dimitri Otis, Stone, Getty Images.

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AUTUMN 2021