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EVALUATION OF THE PERCEPTION OF QUALITY OF LIFE IN OLDER ADULTS AFTER BURN

AVALIAÇÃO DA PERCEPÇÃO DA QUALIDADE DE VIDA DO IDOSO PÓS-QUEIMADURA

EVALUACIÓN DE LA PERCEPCIÓN DE LA CALIDAD DE VIDA EN PERSONAS MAYORES DESPUÉS DE SUFRIR QUEMADURAS

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Objective: To assess the perception of quality of life among older adults after burns. Method: A cross-sectional study conducted at a tertiary care hospital in the city of Fortaleza, Ceará. Data collection took place in October and November 2024. Participants included older adults who had suffered burn injuries in the last five years and who had some limitation in their quality of life. Results: seventy (70) older adults participated, and burns at home during food preparation caused the majority of burns. The domains of the Burn Specific Health Scale (BSHS-R) included "work," where the older adults had difficulty performing activities involving functional skills; "interpersonal relationships," especially concern with the perception of appearance; and skin sensitivity, which affected tactile perception and comfort. Conclusion: The quality of life of older adults after burns remained relatively preserved, but there was significant impairment in the performance of activities of daily living that require greater functional capacity.

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Descriptors: Aged. Nursing. Burns. Accidents, Home. Quality of Life.

Objetivo: avaliar a percepção da qualidade de vida do idoso pós-queimadura. Método: estudo transversal, realizado em hospital de atenção terciária na cidade de Fortaleza, Ceará. A coleta de dados ocorreu em outubro e novembro de 2024. Participaram do estudo idosos que sofreram acidentes por queimaduras nos últimos cinco anos e que apresentavam alguma limitação na qualidade de vida. Resultados: participaram 70 idosos; a queimadura no domicílio durante o preparo da alimentação acarretou a maioria das queimaduras. Os domínios da Burn Specific Health Scale incluíram o trabalho, em que os idosos apresentaram dificuldades em realizar atividades com habilidades funcionais; as relações interpessoais, especialmente a preocupação com a percepção da aparência; e sensibilidade da pele, o que afetou a percepção tátil e conforto. Conclusão: a qualidade de vida dos idosos pós-queimadura se manteve relativamente preservada, porém houve comprometimento significativo no desempenho de atividades de vida diária que exigem maior capacidade funcional.

Descritores: Idoso. Enfermagem. Queimaduras. Acidentes domésticos. Qualidade de Vida.

Objetivo: Evaluar la percepción de la calidad de vida en personas mayores después de sufrir quemaduras. Método: Estudio transversal realizado en un hospital de tercer nivel de Fortaleza, Ceará. La recolección de datos se realizó entre octubre y noviembre de 2024. Participaron personas mayores que habían sufrido quemaduras en los últimos cinco años y que presentaban alguna limitación en su calidad de vida. Resultados: Participaron 70 personas mayores, y la mayoría de las quemaduras se produjeron en el hogar durante la preparación de alimentos. Los dominios de la Escala de Salud Específica para Quemaduras (BSHS-R) incluyeron "trabajo", donde las personas mayores presentaron dificultad para realizar actividades que implican habilidades funcionales; "relaciones interpersonales", especialmente preocupación por la percepción de la apariencia; y sensibilidad cutánea, que afectó la percepción táctil y la comodidad. Conclusión: La calidad de vida de las personas mayores después de sufrir quemaduras se mantuvo relativamente preservada, pero se observó un deterioro significativo en el desempeño de las actividades de la vida diaria que requieren mayor capacidad funcional.

Descriptores: Anciano. Enfermería. Quemaduras. Accidentes Domésticos. Calidad de Vida.

Introduction

Population aging is a global phenomenon that poses significant challenges for healthcare systems, especially regarding the prevention and management of common conditions in this age group. Among these conditions, burns in the older adults represent a significant public health problem due to their high morbidity and mortality and the complications associated with the recovery process[1].

In the context of older adults burn victims, the concept of quality of life (QoL) stands out, understood as multidimensional and comprehensive, encompassing physical, psychological, and social domains. When related to aspects of health, illness, and care, the term health-related quality of life (HRQoL) is used; the concept of health status refers to the patient's physical condition at a specific point in time. In burn victims, HRQoL reflects the ability to respond and adapt to the physical, emotional, and social changes resulting from the trauma, considering the individual, family, and social factors involved[2].

Older adults are more vulnerable to burns due to physiological changes inherent to the aging process, such as reduced skin elasticity, decreased immune response, and the presence of chronic diseases that can compromise healing[3]. Furthermore, burns in the home are common in this population, often associated with accidents related to handling hot liquids, falls on heated surfaces, and failures in home safety[4].

Burns in the older adults often require prolonged hospitalization due to the greater severity of the injuries and the body's reduced ability to recover. It is worth noting that older adults burn victims are at greater risk of infectious complications, dehydration, and electrolyte imbalances, increasing the need for intensive care and prolonging hospital stays[5]. The hospital mortality rate in older adults burn victims is significantly higher compared to other

age groups, especially when the burned area is extensive[6].

Approximately 70% of burn cases occur in the home, with children and the older adults being the main victims. In Brazil, it is estimated that approximately one million people suffer burns annually, resulting in approximately 2,500 deaths per year. These data highlight the importance of understanding and preventing burns in the older adults in the domestic context[4].

The vulnerability of the older adults to domestic burns is associated with factors such as decreased mobility, sensory changes, and the presence of comorbidities. The main causes include accidents in the kitchen and bathroom involving hot liquids and heated surfaces. Furthermore, the presence of obstacles in the home environment, such as loose rugs and slippery floors, increases the risk of falls and burns[7].

The most common locations for burns in the older adults include the hands, arms, legs, and chest, and are often related to domestic accidents involving stoves, boiling liquids, and heating devices[8]. The vulnerability of older adults to this type of injury reinforces the importance of prevention strategies, such as home adaptations, the use of safety devices, and educational campaigns aimed at this population and their caregivers.

A recent study highlights that most burns in older adults occur in the kitchen, followed by the bathroom, due to contact with hot surfaces and boiling liquids. Furthermore, factors such as mobility limitations and sensory deficits increase the risk of heat strokes in this population. Implementing safety measures, such as installing grab handles, controlling water temperature, and wearing protective clothing, has been recommended to reduce these events[9].

Hospitalization for older adults due to burns is often prolonged due to the severity of the injuries and their reduced recovery capacity. Older burn patients are at higher risk of infectious complications, dehydration, and electrolyte imbalances, increasing the need for intensive care and prolonging hospital stays[10].

After hospital discharge, continued home care is essential for the rehabilitation of older adults with burns. Strategies such as home care by nursing staff, telemonitoring, skin care guidance, and adequate nutrition can contribute to recovery and prevent secondary complications[11]. Furthermore, training family caregivers is essential to ensure treatment adherence and prevent further burn episodes.

The role of nursing in the prevention and treatment of burns in the older adults is crucial, as these professionals work in health education and can guide older adults and caregivers on preventive measures, such as the safe use of household items and environmental adaptations to minimize risks[12].

Given this scenario, it is essential to deepen knowledge about burns in the elderly at home and highlight prevention and nursing intervention strategies. Implementing educational programs aimed at the elderly, their families, and caregivers, as well as adapting the home environment to make it safer, are essential measures to reduce the incidence of these events and improve the quality of life of the elderly population.

Against this backdrop, the present study aimed to assess the perception of quality of life among elderly individuals after a burn.

Method

This is a cross-sectional, quantitative field study conducted at a tertiary care hospital specializing in burn care in the city of Fortaleza, Ceará. Data collection took place between October and November 2024.

Based on the health institution's records, 250 older adults who were victims of domestic accidents were treated in 2024. To estimate the prevalence of burns in the home environment, the data were adjusted to the two-month collection period, resulting in an estimated prevalence of 28.3%. The sample size calculation was performed using the formula for finite populations, assuming a 95% confidence level and a sampling error of 5%, resulting in a final sample of 70 older adults. This methodological approach aims to ensure

sample representativeness and the accuracy of statistical estimates.

The study included older adults who had suffered burns in the last five years, were treated as outpatients or inpatients at the Burn Center of the hospital, and who had some limitation in their quality of life. Older adults with reduced cognitive capacity, which made it difficult to understand and respond to the survey, were excluded.

To collect the data, a structured instrument was applied, comprising two parts: a) Clinical-Epidemiological Data and b) The Burn Specific Health Scale (BSHS-R). The researchers themselves administered the instruments. To assess the clinical-epidemiological data, information such as sex, age, marital status, education level, family income, medications in use, the etiological agent of the burn, activity performed at the time of the accident, length of hospital stay, burned body surface area, and burn degree was collected. The BSHS-R is a scale developed to assess the health-related quality of life (HRQOL) of people who have suffered burns, considering the physical, emotional, functional, and social impacts resulting from this type of trauma.

The BSHS-R has 31 items, organized into six domains: skills for simple functions, skin sensitivity, affect and body image, treatment, work, and interpersonal relationships. Each item of the BSHS-R can range in score from 1 to 5, and the total score ranges from 31 to 155; in the version used in Brazil, the higher the score, the worse the patient's health status[12].

The data were organized in a Microsoft Excel 2016 spreadsheet and analyzed using the Statistical Package for the Social Sciences (SPSS), version 24.0. A significance level of 5% ($p < 0.05$) and a 95% confidence interval (CI) were adopted for all analyses, with results with a p-value less than 0.05 considered statistically significant. The Kruskal-Wallis and Mann-Whitney tests were used for statistical analysis. The use of these tests is justified by the need to compare independent groups regarding nonparametric variables, ensuring a robust and adequate data assessment. Ethical and legal aspects were respected in accordance with Resolution 466/12 of the National Health Council/Ministry of Health, which addresses research protocols involving human beings[13]. This study was submitted to the Research Ethics Committee and approved under opinion 4,549,268 and CAAE 43060621.2.0000.9267.

Results

The sample consisted of 70 older adults burn victims, both male and female, residing in both the capital and the countryside of Ceará. Participants were predominantly between 60 and 69 years of age (81.4%) and had little or no education (90.0%). Table 1 shows the distribution of the mean sum of the BSHS-R scores according to the participants' sociodemographic characteristics.

The overall results of the scale were independent of all sociodemographic characteristics investigated, except for education level. Statistical analysis of the data indicated that the overall scores obtained from the scale were not statistically significantly associated with the sociodemographic variables analyzed, except for education level ($p<0.018$). This variable demonstrated a significant influence on the results, suggesting that different levels of education may respond differently to the scale used. The sum score was higher among illiterate older adults or those who could only sign their names (98.8±11.0) ($p=0.018$), which appears to indicate that they had a worse perception of theirhealth status after the burn than those with a higher level of education health status after the burn than those with a higher level of education.

Table 1 - Mean sum scores of the BSHS-R, according to the characteristics of older adults who suffered burns. Fortaleza, Ceará, Brazil, 2025. (n=70)

Variables	Frequency n=70	%	Total of BSHS-R (31-155)		
			Mean (SD)	CI95%	p-value
Age group					**0,155***
60 - 69 years	57	81,4	94,6 (8,4)	92,4 - 96,8	
70 - 79 years	8	11,4	99,5 (11,8)	89,5 - 109,4	
80 - 88 years	5	7,1	108,4 (17,8)	86,1 - 130,6	
Gender					**0,158****
Female	36	51,4	96,5 (8,0)	93,7 - 99,2	
Male	34	48,6	95,8 (12,2)	91,6 - 100,1	
City of residence					**0,378****
Capital	36	51,4	96,3 (9,0)	93,2 - 99,4	
Countryside	34	48,6	96,0 (11,5)	92,0 - 100,0	
Education					**0,018***
Illiterate / sign the name	44	62,9	98,8 (11,0)	95,4 - 102,2	
Elementary education	19	27,1	91,2 (7,1)	87,8 - 94,7	
High school	6	8,6	91,5 (5,1)	86,1 - 96,8	
Higher education	1	1,4	101 (-)	-	
Medications in use					**0,570***
None	31	44,3	95,0 (9,4)	91,5 - 98,4	
1 - 3 medications	26	37,1	98,4 (12,6)	93,3 - 103,5	
4 or more medications	13	18,6	94,4 (5,2)	91,3 - 97,6	
Diagnosed chronic disease					**0,432****
Yes	38	54,3	97,3 (10,9)	93,7 - 100,9	
No	32	45,7	94,8 (9,3)	91,4 - 98,1	

Source: Created by the author.

F: Frequency

SD: Standard Deviation; CI: Confidence Interval

* Kruskal-Wallis Test

** Mann-Whitney Test

Most of the older adults were taking some medication (55.7%); 37.1% had between one and three prescription medications. More than half of the sample confirmed a diagnosis of a chronic disease (54.3%) (Table 1). Diabetes mellitus, high blood pressure, kidney disease, heart failure, epilepsy, and obesity were mentioned. Almost a third of the participants had two diagnosed comorbidities (28.6%), 18.6% had one disease and 7.1% had three diseases.

The results of the BSHS-R domain assessment showed means close to 3.0, indicating a moderate perception of quality of life among post-burn older adults. The work domain presented the highest mean (3.2 ± 0.5; 95% CI: 3.0–3.3), followed by interpersonal relationships

(3.1 ± 0.5; 95% CI: 2.9–3.2), suggesting better performance and adaptation in these areas.

The total BSHS-R score revealed a mean of 96.1 (± 10.2), with a confidence interval of 93.7 to 98.6, and a median of 95.0, indicating a moderately preserved overall quality of life in the study sample. The means for the domains "Affection and body image" (2.9±0.4; p=0.036) and "Skin sensitivity" (2.9±0.4; p=0.029) of the elderly individuals who had their chest and/or abdomen burned were lower than those of the older adults who did not have these body surfaces burned. This result seems to indicate that older adults who had these areas affected do not perceive aspects related to personal appearance and feelings of sadness and loneliness as negatively after the burn. This interpretation extends to the skin sensitivity domain, since the data suggest that older adults with burns located on the chest and/or abdomen do not experience a statistically significant impact on the perception of post-burn sensory changes.

Table 2 – Measures of central tendency and dispersion of the BSHS-R domains and total, according to the responses of older adults who suffered burns. Fortaleza, Ceará, Brazil, 2025. (n=70)

Domain	Mean (SD)	CI95%	Median (IIQ)
Affect and Body Image*	3,0 (0,4)	2,9 - 3,1	3,0 (2,5)
Skin Sensitivity*	3,0 (0,5)	2,9 - 3,1	3,0 (2,2)
Skills for Simple Functions	3,0 (0,6)	2,9 - 3,2	3,0 (3,0)
Work*	3,2 (0,5)	3,0 - 3,3	3,1 (2,7)
Treatment*	3,0 (0,5)	2,9 - 3,2	3,0 (2,4)
Interpersonal Relationships*	3,1 (0,5)	2,9 - 3,2	3,2 (2,2)
Total*	96,1 (10,2)	93,7 - 98,6	95,0 (54,0)

Source: Created by the author.

SD: standard deviation; IQR: interquartile range

* Possible results: 1 to 5

** Possible results: 31 to 155

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The total BSHS-R score revealed a mean of 96.1 (± 10.2), with a confidence interval of 93.7 to 98.6, and a median of 95.0, indicating a moderately preserved overall quality of life in the study sample. The means for the domains "Affection and body image" (2.9±0.4; p=0.036) and "Skin sensitivity" (2.9±0.4; p=0.029) of the elderly individuals who had their chest and/or abdomen burned were lower than those of the older adults who did not have these body surfaces burned. This result seems to indicate that older adults who had these areas affected do not perceive aspects related to personal appearance and feelings of sadness and loneliness as negatively after the burn. This interpretation extends to the skin sensitivity domain, since the data suggest that older adults with burns located on the chest and/or abdomen do not experience a statistically significant impact on the perception of post-burn sensory changes.

Table 3 – Results of the BSHS-R domains and total, according to the characteristics of burns suffered by the older adults. Fortaleza, Ceará, Brazil, 2025. (n=70)

Variables			BSHS-R (1-5) domains		
	F n=70	%	Affect and Body Image	Skin Sensitivity	Skills for Simple Functions
			Mean (SD)	Mean (SD)	Mean (SD)
Burn agent					
Thermal	58	82,9	3,0 (0,5)	3,0 (0,5)	3,0 (0,6)
Chemical	7	10,0	3,0 (0,2)	3,3 (0,4)	2,9 (0,4)
Electrical	5	7,1	3,0 (0,3)	2,7 (0,6)	3,1 (0,6)
	*p-value**		*0,943*	*0,113*	*0,810*
Activity you were performing					
Food*	26	37,1	3,0 (0,4)	3,0 (0,5)	3,1 (0,6)
Travel (traffic) or contact with vehicle equipment/ material	4	5,7	2,9 (0,7)	3,1 (0,2)	2,8 (0,6)
Home maintenance	23	32,9	3,0 (0,5)	3,0 (0,5)	3,1 (0,4)
Suicide attempt	6	8,6	3,0 (0,2)	3,3 (0,6)	2,9 (0,5)
Home fire/explosion	7	10,0	3,0 (0,5)	3,1 (0,3)	2,9 (0,6)
Attempted homicide	2	2,9	3,0 (-)	2,9 (0,4)	3,0 (0,7)
Contact with material/ equipment at work	2	2,9	3,2 (0,1)	3,2 (0,5)	2,6 (0,1)
	*p-value**		*0,987*	*0,849*	*0,753*
Lenght of hospital stay					
< 30 days	25	35,7	3,0 (0,5)	2,9 (0,5)	3,0 (0,6)
≥ 30 days	45	64,3	3,0 (0,4)	3,1 (0,5)	3,0 (0,5)
	*p-value***		*0,801*	*0,360*	*0,975*
Burned body surface**					
Head and/or neck	22	31,4	3,0 (0,4)	3,0 (0,5)	3,0 (0,6)
	*p-valor***		*0,277*	*0,561*	*0,626*
Chest and/or abdomen	25	35,7	2,9 (0,4)	2,9 (0,4)	3,0 (0,5)
	*p-value***		*0,036*	*0,029*	*0,408*
Upper limbs	36	51,4	3,0 (0,5)	29 (0,4)	2,9 (0,6)
	*p-value***		*0,443*	*0,291*	*0,081*
Lower limbs	43	61,4	3,0 (0,5)	3,0 (0,5)	3,0 (0,6)
	*p-value***		*0,417*	*0,724*	*0,388*
Pubic region	4	5,7	3,3 (0,8)	3,1 (0,5)	2,5 (0,7)
	*p-value***		*0,210*	*0,798*	*0,110*
Back and/or glutes	9	12,8	3,0 (0,3)	3,0 (0,6)	3,3 (0,7)
	*p-value***		*0,979*	*0,633*	*0,160*
Airway	1	1,4	3,0 (-)	3,4 (-)	3,5 (-)

Table 3 – Results of the BSHS-R domains and total, according to the characteristics of burns suffered by the older adults. Fortaleza, Ceará, Brazil, 2025. (n=70)

Variables			BSHS-R (1-5) domains		
	F n=70	%	Affect and Body Image	Skin Sensitivity	Skills for Simple Functions
			Mean (SD)	Mean (SD)	Mean (SD)
	*p-value***		*0,943*	*0,514*	*0,514*
Burn Classification					
2nd Degree	15	21,4	3,0 (0,5)	3,1 (0,5)	3,0 (0,6)
3rd Degree	19	27,1	3,0 (0,5)	2,9 (0,4)	3,1 (0,6)
1st and 2nd Degree	2	2,9	3,4 (0,4)	3,3 (0,7)	2,5 (-)
2nd and 3rd Degree	34	48,6	3,0 (0,4)	3,0 (0,5)	3,0 (0,6)
	*p-value**		*0,647*	*0,875*	*0,360*

Note: Conventional Symbol used:

- Numerical daa equal to zero not resulting from rounding.

Source: Created by the author

F: Frequency

SD: Standard Deviation

* Consumption or preparation

** Multiple responses are possible for the same participant

*** Kruskal-Wallis test

****Mann-Whitney test

Table 4 – Results of the BSHS-R domains and total, according to the characteristics of burns suffered by the older adults. Fortaleza, Ceará, Brazil, 2025. (n=70)

Variables			Domínios da Burn Specific Health Scale			
	F n=70	%	Work	Treatament	Interpersonal Relationships	Total of BSHS-R (31-155)
			Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Burn agent						
Thermal	58	82,9	3,2 (0,5)	3,0 (0,5)	3,0 (0,4)	95,7 (0,9)
Chemical	7	10,0	3,2 (0,5)	3,2 (0,5)	3,5 (0,6)	102,714,6)
Electrical	5	7,1	3,1 (0,3)	2,7 (0,6)	3,0 (0,5)	91,8 (4,7)
	*p-value***		*0,684*	*0,449*	*0,157*	*0,111*
Activity you were performing						
Food*	26	37,1	3,3 (0,5)	3,0 (0,5)	3,2 (0,5)	97,9(10,8)
Travel (traffic) or contact with vehicle equipment/material	4	5,7	3,0 (0,6)	2,6 (0,4)	2,6 (0,3)	88,7 (3,8)
Home maintenance	23	32,9	3,2 (0,5)	3,2 (0,6)	3,1 (0,5)	97,0(12,0)
Suicide attempt	6	8,6	2,9 (0,5)	2,7 (0,5)	3,3 (0,5)	95,5 (5,3)
Home fire/explosion	7	10,0	2,9 (0,6)	3,0 (0,5)	2,6 (0,3)	92,1 (7,5)
Attempted homicide	2	2,9	3,2 (0,3)	3,4 (0,2)	3,5 (0,7)	98,0 (5,6)
Contact with material/ equipment at work	2	2,9	3,1 (0,1)	2,5 (0,7)	3,1 (0,1)	93,0 (9,8)

Table 4 – Results of the BSHS-R domains and total, according to the characteristics of burns suffered by the older adults. Fortaleza, Ceará, Brazil, 2025. (n=70)

Variables			Domínios da Burn Specific Health Scale			
	F n=70	%	Work	Treatament	Interpersonal Relationships	Total of BSHS-R (31-155)
			Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
	*p-value**		*0,553*	*0,180*	*0,062*	*0,396*
Length of hospital stay						
< 30 days	25	35,7	3,4 (0,5)	3,0 (0,5)	3,0 (0,5)	96,8(12,3)
≥ 30 days	45	64,3	3,1 (0,5)	3,0 (0,6)	3,1 (0,5)	95,8 (0,8)
	*p-value***		*0,019*	*0,478*	*0,541*	*0,907*
Burned body surface**						
Head and/or neck	22	31,4	3,0 (0,5)	3,0 (0,5)	3,2 (0,4)	95,0 (9,2)
	*p-value***		*0,270*	*0,884*	*0,276*	*0,573*
Chest and/or abdomen	25	35,7	3,1 (0,5)	3,0 (0,5)	3,1 (0,5)	94,6 (7,8)
	*p-value***		*0,138*	*0,796*	*0,093*	*0,364*
Upper limbs	36	51,4	3,2 (0,5)	3,0 (0,6)	3,1 (0,4)	94,8 (8,7)
	*p-value***		*0,877*	*0,883*	*0,586*	*0,441*
Lower limbs	43	61,4	3,2 (0,6)	3,1 (0,5)	3,1 (0,4)	96,3 (9,8)
	*p-value***		*0,802*	*0,489*	*0,540*	*0,429*
Pubic region	4	5,7	3,6 (0,8)	2,9 (0,5)	3,1 (0,3)	97,2 (9,6)
	*p-value***		*0,192*	*0,634*	*1,000*	*0,440*
Back and/or glutes	9	12,8	3,2 (0,6)	3,0 (0,7)	3,1 (0,5)	97,4(12,5)
	*p-value***		*0,683*	*0,744*	*0,874*	*0,725*
Airway	1	1,4	3,5 (-)	2,2 (-)	2,6 (-)	93,0 (-)
	*p-value***		*0,600*	*0,171*	*0,371*	*0,800*
Burn Classification						
2nd Degree	15	21,4	3,4 (0,6)	3,1 (0,6)	3,2 (0,6)	99,1(14,2)
3rd Degree	19	27,1	3,1 (0,4)	2,9 (0,5)	2,8 (0,4)	92,7 (7,4)
1st and 2nd Degree	2	2,9	3,2 (0,3)	2,3 (0,4)	2,8 (0,2)	92,5 (9,1)
2nd and 3rd Degree	34	48,6	3,1 (0,6)	3,1 (0,5)	3,2 (0,5)	97,0 (9,4)
	*p-value**		*0,417*	*0,164*	*0,128*	*0,443*

Note: Conventional Symbol used:

- Numerical daa equal to zero not resulting from rounding.

Source: Created by the author

F: Frequency

SD: Standard Deviation

* Consumption or preparation

** Multiple responses are possible for the same participant

*** Kruskal-Wallis test

****Mann-Whitney test

Although variations in mean scores were observed between the different groups of older adults with burns, p-values were not statistically significant in most BSHS-R domains. This lack of significance may be related to factors such as the small number of participants, which limits the statistical power of the analyses, and the relative homogeneity of the sample regarding clinical and sociodemographic characteristics. Furthermore, it is possible that certain variables investigated, such as length of hospital stay or burned body surface area, do not directly influence some aspects of the quality of life perceived by the older adults, especially considering subjective factors and individual resilience.

The BSHS-R domains that presented statistically significant differences in the present study were "work" (p=0.019), "affect and body image" (p=0.036), and "skin sensitivity" (p=0.029).

The results indicated high mean scores in the "Contact with Material/Equipment at Work" and "Interpersonal Relationships" domains, with means of 3.2 (±0.1) and 3.1 (±0.1), respectively. These findings suggest that participants have a positive perception of their ability to perform functional activities involving handling materials or equipment, as well as of maintaining social and interpersonal bonds after the burn event.

The analysis of the results revealed that length of hospital stay did not significantly influence most BSHS-R domains, except for the "Work" domain, which showed a statistically significant difference (p=0.019), indicating that patients hospitalized for less than 30 days reported better functional performance in this area. Regarding burned body surface area, the domains "Affect and Body Image" (p=0.036) and "Skin Sensitivity" (p=0.029) showed significant differences in relation to the chest and/or abdomen, suggesting that burns in this area have a more negative impact on these aspects of quality of life. The other domains did not show statistically significant variations depending on the location of the burn.

Regarding burn classification, patients with second-degree burns had higher total scores (mean=99.1; SD=14.2) compared to those with third-degree burns (mean=92.7; SD=7.4), although this difference did not reach statistical significance. These findings indicate that burn severity can influence health-related quality of life, but the heterogeneity of the sample may have limited the demonstration of statistical differences. In general, the data indicate that aspects such as the extent and location of burns can specifically affect some domains of quality of life, especially with regard to body image and skin sensitivity, areas directly related to the patient's physical and emotional perception.

Discussion

A predominance of the 60- to 69-year-old age group was observed, which is in line with a review study that analyzed the epidemiological profile of reported burn cases in Brazil from 2015 to 2019. This study associated this age group with more active older adults involved in a variety of activities. This situation can be attributed to the maintenance of functional reserves still present in this age group, as senility begins during this period. Thus, as age advances, the incidence of accidents tends to decrease[14].

Regarding gender, the data from this study differ from many national studies that indicate men are more affected by burns. However, studies, both national and international, corroborate the results obtained. It is believed that women are aging more than men due to factors related to self-care and improved quality of life, which, paradoxically, can increase their exposure to accidents, especially in domestic settings[15].

The elderly participants in this study were found to have low levels of education, which were directly proportional to the higher scores obtained on the BSHS-R. This finding corroborates the results of a previous study conducted at the same institution[16], in which the majority of individuals also had low levels of education. It is noteworthy that 10 participants had incomplete elementary education and six had completed high school. It is noteworthy that low levels of education, combined with poor socioeconomic conditions and inadequate

housing, constitute an important risk factor for the occurrence of accidents, which can result in sequelae, disabilities, functional limitations, and, in more severe cases, death.

Although they represented the smallest portion of the sample, 13 participants used polypharmacy, defined as the use of four or more medications. Combining medications, especially for the treatment of chronic diseases, can increase the likelihood of adverse events such as postural instability, dizziness, and muscle relaxation. Furthermore, symptoms related to chronic diseases can contribute to the occurrence of accidents and impair the burn healing process, as observed in diabetic patients, whose condition can delay healing and increase the risk of infection. In the present study, more than half of the participants reported having one or more associated chronic diseases[14].

The most common causative agent of burns was heat, affecting 58 of the 70 participants, corroborating the literature that indicates that most burn accidents are heat-related. Most accidents occurred in the home, especially during meal preparation, which is also consistent with other national and international studies[15].

Physiological changes associated with aging make this population more susceptible to accidents. Factors such as decreased visual acuity, reduced physical strength, slowed reflexes, and decreased tactile sensitivity are some of the limitations that older adults face, increasing their exposure to risky situations[17].

Regarding length of hospital stay, most participants remained hospitalized for more than 30 days, suffering from extensive and deep burns, especially on the lower limbs, with second- and third-degree injuries. The depth of the injuries is a determining factor in length of hospital stay, and conditions such as impaired healing, exacerbated trauma response, and the presence of chronic diseases can worsen the clinical course of older adults, prolonging their hospital stay, justifying the findings[18].

In a retrospective study carried out from January 2009 to December 2019, with data extracted from the Department of Information Technology of the Unified Health System (DATASUS), through the "Health Information" module, it was observed that the mortality rate was 8.91% among individuals aged 80 or over and 4.19% in the age group from 60 to 79 years. The mean length of hospital stay recorded was 6.8 days for those over 80 years of age and 5.8 days for those between 60 and 79 years of age[19].

A study conducted in China[20] between 2009 and 2018 investigated the etiology, clinical characteristics, and therapeutic efficacy in older adult patients (≥60 years) with severe burns admitted and treated at a specialized burn center. The results indicated a high mortality rate and prolonged hospital stays in this age group. Of the 109 patients analyzed, 27 deaths occurred (16 men and 11 women), corresponding to an overall mortality rate of 24.8%. The mean hospital stay was 19.0 days.

Analysis of the BSHS-R revealed high scores among elderly participants, indicating a compromised quality of life. The higher the score on the burn scale, the worse the reported quality of life. The scale assesses six domains, and participants had a higher mean in the work domain, indicating that, after the burn, they faced more difficulty performing activities that required preserved functional abilities, while simple daily activities were less affected.

The interpersonal relationships domain also presented a high percentage and studies on body image satisfaction in burn patients show that these individuals are concerned about how others perceive their appearance, which negatively affects their relationships and social interactions. In addition to physical damage, burns have psychological consequences that alter the patient's self-image[21].

Regarding the affect and body image domain, it was observed that older adults who suffered burns in less visible areas, such as the chest and abdomen, had lower mean scores compared to those who suffered burns on the upper and lower limbs. In other words, areas of greater exposure of the injuries decreased the older adult's quality of life in terms of affect and body image. Older adults deal with numerous changes resulting

from aging, especially in terms of appearance. When this is associated with disfiguring injuries, a process of image distortion can occur, negatively affecting the quality of life of post-burn older adults[22].

The results of this study indicate that most accidents occur in the home, suggesting they are preventable. Domestic accidents involving the older adults are more frequent than one might imagine and can directly affect quality of life, causing consequences that hinder the performance of daily activities. The home should be a safe space, adapted to the limitations of the older adults, to ensure their autonomy and reduce the risk of accidents. Many older adults have difficulty identifying their vulnerabilities and risks, which emphasizes the importance of promoting health to prevent accidents at home[23-24].

Given the impact of burns on the lives of older adults, the role of nursing becomes central to care, as this condition poses challenges that go beyond the treatment of physical injuries, encompassing emotional, functional, and social aspects. Aging itself entails physiological changes that compromise the immune response, tissue healing, and skin integrity, making older adults particularly vulnerable to burn-related complications such as infections, fluid and electrolyte imbalances, and functional impairment. Furthermore, it is extremely important to provide guidance to family members regarding the limitations of the older adulrs, recognizing the risks associated with degenerative diseases that can predispose to accidents, as well as offering adequate training for the necessary care.

The findings of this study reflect the reality of a specific population, which limits their generalizability. However, they offer relevant insights into the impacts of burns on the quality of life of older adults.

A limitation of this study is the sample size restricted to a specific healthcare institution, which may affect the generalizability of the results to other populations. Furthermore, the quality of life assessment was based on a single tool (the BSHS-R scale), which may not encompass all aspects of older adults' health and well-being. Future studies could utilize a multidimensional approach to more fully assess the impacts of burns on older adults' lives.

Conclusion

This study assessed the perception of quality of life among older adults after burns. Based on the results, it was observed that burns resulting from domestic accidents indicated a high quality of life score for participants, especially in the work-related domain. However, older adults burn victims experienced a reduced quality of life, with significant difficulties performing activities that require preserved functional capacity.

The results reveal that, although the overall perception of quality of life among older adults after burns remains relatively preserved, there is significant impairment in the performance of activities of daily living that require greater functional capacity. This relationship highlights that, despite a positive perception in general aspects, the physical limitations resulting from burns directly affect the autonomy and independence of older adults. These findings reinforce the need for specific and targeted clinical interventions aimed at functional rehabilitation, reducing physical limitations, and promoting autonomy, aiming to effectively improve their quality of life in the post-trauma period.

The study highlights that burns compromise the functionality of older adults, indicating the need for interventions focused on rehabilitation and promoting autonomy. The results support clinical practice and the development of specific protocols for post-burn care.

Collaborations:

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Conflicts of interest

There are no conflicts of interest.

Data Availability Statement

The dataset supporting the findings of this study has been published within the article itself. Additional data are not publicly available due to ethical restrictions but may be requested from the corresponding author LCLD, subject to a reasonable request..

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