



Validation of the Spanish version of the Burn Specific Health Scale-Brief (BSHS-B) questionnaire

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Abstract

Background The Burn Specific Health Scale-Brief (BSHS-B) is considered a validated questionnaire to evaluate quality of life after burn. The purpose of this study was to translate the BSHS-B into Spanish and perform its cross-cultural adaptation.

Methods First, BSHS-B was translated from English into Spanish. Subsequently, 84 patients answered the Spanish version of BSHS-B and SF-36 scales to assess the reliability (Cronbach's alpha), construct validity (Spearman rank test), and stability in time (intra-class correlation coefficient).

Results The BSHS-B-Sp showed a good internal consistency with a global Cronbach's alpha of 0.96. Correlations between the major domains of BSHS-B and SF-36 are reported with Spearman's coefficient ranging from 0.29 to 0.87 in all sub-domains ($p < 0.01$). Stability in time was confirmed by intra-class correlation coefficient (0.91–0.99 for every sub-domain and 0.98 for global score, $p < 0.001$).

Conclusions The Spanish version of the BSHS-B demonstrated an appropriated internal consistency, construct validity, and stability in time. This fact supports its applicability to evaluate the quality of life of burn patients.

Level of evidence: Not gradable

Keywords BSHS-B · Questionnaire · Spanish language

Abbreviations

BSHS-B	Burn Specific Health Scale-Brief
BSHS-A	Abbreviated burn specific health scale
BSHS-R	Revised burn specific scale
ICC	Intra-class correlation coefficient
ICU	Intensive care unit
LOS	Length of stay
MOT	Medical outcome trust
TBSA	Total body surface area
SAC	Scientific Advisory Committee
SF-36	Short-Form 36 Health Survey Questionnaire
QoL	Quality of Life

Introduction

Burn injuries cause severe physical and psychological sequelae in patients. It affects their self-esteem, their relationships with family and friends, their body image, and their capacities to work are reduced. These affairs have a vital impact on the quality of life (QoL) of patients.

Quality of life assessment is based on the evaluation of different spheres (physical, social, and psychological). The level of reduction of QoL depends on total body surface area (TBSA) involved and certain critical areas such as hands and head burns, which are especially related in physical and social repercussions, respectively.

QoL questionnaires are absolutely useful for physicians to be aware of the level of satisfaction of patients and establish an adequate approach to improve it. In addition, they help patients to know not only their physical and psychological status, but also their needs and progression. They should be easy to read and understand to facilitate QoL evaluation.

The Burn Specific Health Scale-Brief (BSHS-B) is an extremely useful tool with 40 items. Each item is answered from 0 (total) to 4 (nothing at all). It consists of nine

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sub-domains: affect, simple abilities, work, interpersonal relationships, heat sensitivity, sexuality, treatment regimens, body image, and hand function [1]. As other quality of life scales, higher scores of BSHS-B refer to better quality of life.

The questionnaire BSHS-B has been translated into French [2], German [3], Italian [4], Chinese [5], Taiwanese [6], Polish [7], Hebrew [8], Persian [9], Norwegian [10], Brazilian [11], Hindi [12], Turkish [13], and Nepali [14].

Although Sanz et al. [15] published the Spanish version of the Burn Specific Health Scale in 1998, any validated Spanish version of the BSHS-B is actually available. Therefore, the purpose of the study was to validate the translated Spanish version of the BSHS-B, and also testing its reliability and validity in clinical practice.

Materials and methods

The study was held by the Plastic and Reconstructive department of a third level hospital in Spain. All patients were informed about the purpose of the study and accepted to participate. Anonymity was maintained during patient inclusion.

The Short-Form 36 Health Survey Questionnaire (SF-36) and the Spanish version of BSHS-B were delivered at the same time to 84 patients who were previously admitted in our institution from January 2015 to December 2020. Both scales were administered by burn surgeons during hospital visits from June 2020 to August 2021.

Inclusion criteria

We included burn patients > 18 years old suffering full thickness burns equal to or larger than 5% of TBSA who underwent surgery or enzymatic debridement.

Exclusion criteria

We excluded pediatric and psychiatric patients, non-Spanish speakers, and patients with a TBSA < 5% or suffering from superficial burns. Dead and lost to follow-up patients between their discharge and the period of the study were also excluded.

Data collection

In total, 222 eligible burn patients were proposed to join the study by phone, but finally, 84 patients accepted. Demographic and clinical data extracted included age, gender, date of admission, percentage of total body surface area (%TBSA), mechanism of burn injury, location of burn,

length of stay (LOS), intensive care requirements, surgical procedures, and complications.

Quality of life scales

The Spanish SF-36 questionnaire [16] and the BSHS-B questionnaire [1] that was translated into Spanish (BSHS-B-Sp) were used to investigate the QoL of burn patients.

Short Form 36 Health Survey (SF-36)

The SF-36 was developed by the Medical Outcomes Study (MOS) in 1992 [17] and validated into Spanish in 1995 [16] to measure the general health and QoL. It provides 36 items grouped into 8 domains: (1) Physical functioning, (2) Role physical, (3) Social functioning, (4) Vitality, (5) Bodily pain, (6) General health, (7) Role-emotional, and (8) Mental health. It has already been used to assess the QoL in burn patients in previous studies [2, 4].

Burn Specific Health Scale-Brief (BSHS-B)

The BSHS was created in 1982 in the USA [18] and initially assessed the quality of life through 369 items, later reduced to 114. Subsequently, it was reduced to 80 items (Abbreviated Burn Specific Health Scale, BSHS-A) and then revised by Blalock et al. [19] (Revised Burn Specific Scale, BSHS-R), containing a total of 31 items but it excluded hand function and sexuality.

In 2001, Kildal et al. [1] developed the Burn Specific Health Scale-Brief (BSHS-B) which became one of the most widely used in clinical practice to evaluate QoL in burn patients. It is easy to understand and patients complete it in 10 min approximately. The BSHS-B contains 40 items grouped in 9 sub-domains: heat sensitivity (5 items), work (4 items), simple abilities (3 items), interpersonal relationships (4 items), hand function (5 items), body image (4 items), treatment regimens (5 items), sexuality (3 items), and affect (7 items). Burn patients should score each item on a scale from 0 to 4, where the higher scores, the better quality of life.

Subsequently, Willebrand et al. [20] reported that, with the exception of work sub-domain, all sub-domains can be grouped into 3 internally consistent and well separated domains: affect and relationship domain (interpersonal relationship, sexually, and affect), function domain (hand function and simple abilities), and skin involvement domain (treatment regimens, heat sensitivity, and body image). The work sub-domain can be considered as a separate domain by itself. Mean scores were calculated for the overall scale, for the 3 major domains and for each of the sub-domains.

BSHS-B Spanish version (BSHS-B-Sp)

According to the Scientific Advisory Committee (SAC) of the Medical Outcome Trust (MOT) [21], 3 independent interpreters translated the BSHS-B from the English language into Spanish. Then, we performed a reverse translation from the Spanish version to English by a professional English translator. Not only an adequate translation is enough, but also a cultural adaptation is mandatory, because the different perception of QoL in different countries.

Statistic values

All analyses were performed with the SPSS Statistics 25®. To confirm the reliability of the BSHS-B-Sp, the internal consistency was assessed by Cronbach's alpha for each sub-domain and the whole instrument. It is considered appropriate when alpha value is above 0.7 [22]. The construct validity of BSHS-B-Sp was determined by the Spearman correlations with the domains of SF-36, which was chosen as the gold standard measure for quality of life.

The stability in time was assessed by the test–retest method and the intra-class correlation coefficient (ICC). The retest was performed at least at 6 months and an $ICC \geq 0.7$ is considered acceptable for this purpose.

Results

A total of 540 patients were admitted during the years 2015–2020 in our burn unit and 222 met the inclusion criteria. Of these, finally 84 patients accepted to participate in the study and completed both questionnaires (BSHS-B Spanish version and SF-36). The period of time since the date of the burn and the quality of life evaluation was 6–69 months (35.3 ± 17.1 months). Sixteen patients completed the BSHS-B twice to assess stability in time (Fig. 1).

The population of study were 84 patients, mostly men (67.9%), with a mean age of 42 years old (42.88 ± 17.89) and an average total body burn surface area (TBSA) of 23% (23.78 ± 17.43 [range: 5–75%]). Table 1 describes the demographic data of the participants. Flame ($n = 65$, 77.4%) was the most common mechanism of injury and the 75% of cases were accidental.

Mean and median scores in every domain for the SF-36 questionnaire are described in Table 2.

The BSHS-B-Sp showed a good reliability with a global Cronbach's alpha of 0.96. In addition, alpha value resulted ≥ 0.7 for every sub-domain, with the higher scores for Simple abilities, Hand function, Body image,

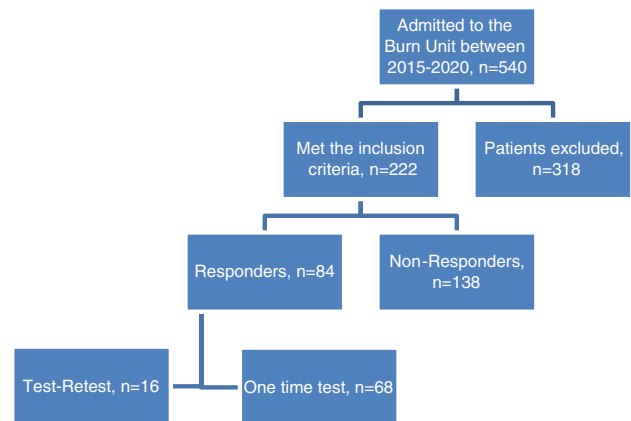


Fig. 1 Data of burn patients during the years of the study (2015–2020) in our institution

Table 1 Clinical and demographic data of patients included ($N = 84$)

Age (mean \pm SD)	42.88 (\pm 17.89)
Gender, N (%)	
Female	27 (32.1)
Male	57 (67.9)
TBSA, % (mean \pm SD)	23.48 (\pm 17.43)
BMI (mean \pm SD)	26.31 (\pm 4.53)
Length of stay (mean \pm SD)	33.5 (\pm 24.66)
Burn localization, N (%)	
Head and Neck	43 (51.2)
Upper limb	64 (76.2)
Hands	53 (63.1)
Lower limb	60 (71.4)
Feet	11 (13.1)
Chest	29 (34.5)
Abdomen	31 (36.9)
Dorsal region	29 (34.5)
Genitalia	3 (3.6)
Etiology of burn, N (%)	
Flames	65 (77.4)
Scald	14 (16.7)
Chemical	2 (2.4)
Electrical	3 (3.6)
Reason, N (%)	
Accidental	63 (75)
Job accident	17 (20.2)
Suicide attempt	4 (4.8)
Activity, N (%)	
Unemployed	3 (3.6)
Student	6 (7.1)
Physical work	37 (44)
Administrative work	13 (15.5)
Retired/Pensioner	25 (29.8)

Table 2 Mean and median scores of domains of SF-36

	Mean	SD	Median
Physical functioning	22.96	6.18	24
Role-physical	12.36	5.77	12
Bodily pain	7.4	3.16	7.2
General health	16.41	5.08	16.4
Social functioning	6.93	2.39	7
Mental health	18.26	5.51	18
Role-emotional	10.9	3.96	11
Vitality	13.82	4.33	14

Table 3 Cronbach's alpha values of every sub-domain of BSHS-B-Sp

	Cronbach's alpha
Function domain	
Simple abilities	0.93
Hand function	0.94
Skin involvement domain	
Heat sensitivity	0.88
Treatment regimens	0.86
Body image	0.94
Affect and relationship domain	
Sexuality	0.91
Interpersonal relationship	0.92
Affect	0.95
Work	0.70
Total score	0.96

and Affect. Table 3 reports alpha values of each domain of the BSHS-B-Sp.

The correlation with SF-36 questionnaire scores allowed to assess the construct validity of BSHS-B. Table 4 reports correlations between the major domains of BSHS-B and SF-36, with Spearman's coefficient ranging from 0.29 to 0.87, all statistically significant ($p < 0.01$). Highest correlations were found between sub-domain Affect of the BSHS-B-Sp and Mental Health (0.87), Social Functioning (0.81), Vitality (0.77), and Role-Emotional (0.77) of SF-36.

The stability of the questionnaire in time was determined by intra-class correlation coefficient (ICC). ICC for test–retest ranged between 0.91 to 0.99 and 0.98 for the whole instrument (Table 5).

Patients completed the BSHS-B-Sp questionnaire in 12 min in average (range: 9–15 min).

Table 4 Correlations between BSHS-B-Sp and SF-36 (Spearman's rho with p value)

BSHS-B-Sp	SF-36	Spearman's rho	p	
Heat sensitivity	Physical functioning	0.46	<0.001	
	Role-physical	0.57	<0.001	
	Bodily pain	0.52	<0.001	
	General health	0.52	<0.001	
	Vitality	0.45	<0.001	
	Social functioning	0.55	<0.001	
	Role-emotional	0.58	<0.001	
	Mental health	0.54	<0.001	
	Affect	Physical functioning	0.65	<0.001
		Role-physical	0.62	<0.001
Bodily pain		0.60	<0.001	
General health		0.66	<0.001	
Vitality		0.77	<0.001	
Social functioning		0.81	<0.001	
Role-emotional		0.77	<0.001	
Hand function	Mental health	0.87	<0.001	
	Physical functioning	0.68	<0.001	
	Role-physical	0.50	<0.001	
	Bodily pain	0.40	<0.001	
	General health	0.45	<0.001	
	Vitality	0.42	<0.001	
	Social functioning	0.50	<0.001	
Treatment regimens	Role-emotional	0.36	0.001	
	Mental health	0.42	<0.001	
	Physical functioning	0.32	0.003	
	Role-physical	0.37	<0.001	
	Bodily pain	0.29	0.007	
	General health	0.42	<0.001	
	Vitality	0.40	<0.001	
	Social functioning	0.45	<0.001	
	Role-emotional	0.44	<0.001	
	Mental health	0.46	<0.001	
Work	Physical functioning	0.45	<0.001	
	Role-physical	0.54	<0.001	
	Bodily pain	0.43	<0.001	
	General health	0.41	<0.001	
	Vitality	0.46	<0.001	
	Social functioning	0.49	<0.001	
	Role-emotional	0.53	<0.001	
Sexuality	Mental health	0.53	<0.001	
	Physical functioning	0.57	<0.001	
	Role-physical	0.53	<0.001	
	Bodily pain	0.57	<0.001	
	General health	0.46	<0.001	

Table 4 (continued)

BSHS-B-Sp	SF-36	Spearman's rho	p
Interpersonal relationship	Vitality	0.46	<0.001
	Social functioning	0.48	<0.001
	Role-emotional	0.38	<0.001
	Mental health	0.47	<0.001
	Physical functioning	0.36	0.001
	Role-physical	0.36	0.001
	Bodily pain	0.29	0.006
	General health	0.32	0.002
	Vitality	0.36	0.001
	Social functioning	0.45	<0.001
Simple abilities	Role-emotional	0.50	<0.001
	Mental health	0.53	<0.001
	Physical functioning	0.59	<0.001
	Role-physical	0.40	<0.001
	Bodily pain	0.41	<0.001
	General health	0.41	<0.001
	Vitality	0.39	<0.001
	Social functioning	0.34	0.001
	Role-emotional	0.30	0.005
	Mental health	0.39	<0.001
Body image	Physical functioning	0.44	<0.001
	Role-physical	0.57	<0.001
	Bodily pain	0.54	<0.001
	General health	0.49	<0.001
	Vitality	0.52	<0.001
	Social functioning	0.57	<0.001
	Role-emotional	0.60	<0.001
	Mental health	0.57	<0.001

Relationship between BSHS-B-Sp scores and clinical variables

BSHS-B-Sp and age, gender, and length of stay

Men showed better mean scores in subdomain Affect versus women (19.44 vs 13.78, $p < 0.01$). A negative correlation between age and subdomain Sexuality ($r = -0.32, p < 0.01$) and Simple Abilities ($r = -0.26, p < 0.05$) was observed. Length of stay was negatively correlated with subdomain Heat Sensitivity ($r = -0.30, p < 0.01$), Simple Abilities ($r = -0.26, p < 0.05$), Body Image ($r = -0.23, p < 0.05$), and global BSHS-B-Sp ($r = -0.28, p < 0.05$).

BSHS-B-Sp and TBSA

TBSA was negatively correlated with global BSHS-B-Sp ($r = -0.24, p < 0.05$), Heat Sensitivity ($r = -0.3, p < 0.01$), Work ($r = -0.23, p < 0.05$), Simple Abilities ($r = -0.24, p < 0.05$), and Body image ($r = -0.27, p < 0.05$).

BSHS-B-Sp and location of burns

Patients with head and neck burns showed lower mean scores in subdomain Simple Abilities (8.02 vs 10.51, $p < 0.01$). Patients with upper extremity burns (excluding hands) also showed worse mean scores in subdomain Heat Sensitivity (5.84 vs 9.45, $p < 0.05$) and Work (8.05 vs 11.40, $p < 0.05$). In addition, patients with lower extremity burns showed worse mean scores in subdomain Body Image (7.07 vs 10.21, $p < 0.05$).

Patients with genitalia burns resulted in lower mean scores in global BSHS-B-Sp (55.33 vs 100.98, $p < 0.05$), Affect (5.87 vs 18.06, $p < 0.05$), Sexuality (1 vs 8.80, $p < 0.01$), and Interpersonal Relationships (6.67 vs 14.22, $p < 0.01$). Patients with abdomen burns showed worse mean

Table 5 Intra-class correlation coefficient (test–retest reliability) of the BSHS-B-Sp questionnaire ($n = 16$)

	First score		Second score		ICC	Confidence interval 95%	p value
	Mean	SD	Mean	SD			
Heat sensitivity	5.44	5.40	4.25	5.23	0.95	0.88–0.98	<0.001
Affect	19.44	7.17	19.31	7.09	0.99	0.99–1.00	<0.001
Hand function	16.56	4.66	16.94	5.90	0.94	0.84–0.98	<0.001
Treatment regimens	14.06	3.54	14.00	3.72	0.95	0.88–0.98	<0.001
Work	9.88	4.16	9.25	5.53	0.92	0.80–0.97	<0.001
Sexuality	8.88	3.48	9.19	4.32	0.91	0.77–0.96	<0.001
Interpersonal relationships	15.81	0.75	15.75	1.00	0.96	0.89–0.98	<0.001
Simple abilities	9.63	3.68	9.56	4.42	0.93	0.83–0.97	<0.001
Body image	6.94	4.73	6.25	5.29	0.95	0.87–0.98	<0.001
Total score	104.50	29.58	105.75	27.20	0.98	0.96–0.99	<0.001

scores in subdomain Affect (14.87 vs 19.23, $p < 0.05$) and Regimens Treatment (9.90 vs 12.87, $p < 0.05$).

BSHS-B-Sp and burn mechanism and reason

No statistically significant differences were observed between the different mechanisms of burn. However, patients who committed attempts of suicide showed worse mean scores in subdomain Work (Accidental 9.79 ± 5.10 , Job accident 6.88 ± 4.68 , Suicide attempt 2.25 ± 2.06 , $p < 0.01$), Body Image (Accidental 9.02 ± 5.94 , Job accident 5.53 ± 5.71 , Suicide attempt 1.75 ± 3.50 , $p < 0.05$), and global BSHS-B-Sp (Accidental 103 ± 37.51 , Job accident 97.12 ± 33.29 , Suicide attempt 51.25 ± 39.17 , $p < 0.05$).

BSHS-B-Sp and surgery

Burn patients who underwent surgery showed worse mean scores in global BSHS-B-Sp (96.87 vs 126.57, $p < 0.05$), Affect (16.97 vs 24.71, $p < 0.05$), Sexuality (8.23 vs 11.71, $p < 0.05$), and Body Image (7.47 vs 13.43, $p < 0.05$).

Patients who needed initial escharotomy showed worse mean scores in global BSHS-B-Sp (83.9 vs 108.39, $p < 0.01$), Heat Sensitivity (3.26 vs 8.72, $p < 0.001$), Hand Function (12.39 vs 16.09, $p < 0.05$), Treatment Regimens (9.58 vs 13.06, $p < 0.01$), Work (6.48 vs 10.23, $p < 0.01$), and Body Image (5.10 vs 9.64, $p < 0.01$).

Patients treated with enzymatic debridement (Nexobrid®) showed better mean scores in subdomain Heat Sensitivity (9.93 vs 6.06, $p < 0.05$) and Body Image (11.79 vs 7.20, $p < 0.01$).

BSHS-B-Sp and complications

Patients who suffered from any complication during stay showed worse mean scores in global BSHS-B-Sp (90.57 vs 114.35, $p < 0.01$), Heat Sensitivity (5.08 vs 9.48, $p < 0.01$), Treatment Regimens (10.74 vs 13.55, $p < 0.05$), Work (7.66 vs 10.87, $p < 0.01$), Simple Abilities (8.45 vs 10.58, $p < 0.05$), and Body Image (6.75 vs 10.03, $p < 0.05$). Patients with inhalation injury showed worse mean scores in Hand Function (10.63 vs 15.69, $p < 0.01$) and Simple Abilities (7.06 vs 9.75, $p < 0.05$).

BSHS-B-Sp and ICU patients

Patients who required intensive care management showed worse mean scores in global BSHS-B-Sp (89.26 vs 107.67, $p < 0.05$), Heat Sensitivity (4.66 vs 8.39, $p < 0.01$), Treatment Regimens (9.76 vs 13.43, $p < 0.01$), Work (7.61 vs 9.87, $p < 0.05$), and Simple Abilities (7.92 vs 10.33, $p < 0.01$).

BSHS-B-Sp and job activity

Retired people showed the lowest score in subdomain Sexuality in comparison with other groups (Unemployed 12 ± 0 , Student 12 ± 0 , Physical work 8.81 ± 4.53 , Administrative work 9.92 ± 3.40 , Retired/Pensioner 6.12 ± 4.49), statistically significant ($p < 0.05$).

Discussion

Although the BSHS complete version was validated to Spanish in 1998 [15], it is not available any Spanish validation of the BSHS-B at this moment. It allows plastic surgeons to assess the quality of life of burn patients in Spanish-speaking population in routine clinical practice (in 12 min approximately).

Reliability, construct validity, and stability in time analysis

The Cronbach's alpha score of the whole instrument (0.96) showed good internal consistency, similarly to previous studies in this field as French (0.93), Italian (0.89), or Chinese (0.97). Every sub-domain obtained at least an alpha value of 0.7 (range 0.70–0.95) as recommended in other publications of the BSHS-B translations [1–4, 23].

Four sub-domains resulted Cronbach's alpha values ≥ 0.93 (Hand function, Simple abilities, Body image, and Affect), suggesting a remarkable rate for internal consistency. However, the lowest alpha value was found in the Work sub-domain (0.70).

Correlations with the SF-36 questionnaire were very useful to investigate construct validity. The BSHS-B-Sp shows good correlations with SF-36 and excellent construct validity. Highest correlations were found between Affect of the BSHS-B-Sp and Mental Health and Social Functioning of the SF-36. As mentioned, physical and psychological dysfunction decrease QoL of patients.

Test–retest reliability has been used in other translations to confirm the stability in time of BSHS-B. Our questionnaire showed high global ICC value of 0.98, resulting in good stability in time. French, Persian, and Hebrew versions presented similar results [2, 8, 9].

Subdomains of BSHS-B-Sp analysis

Global BSHS-B-Sp

Length of stay, TBSA, genitalia burns, suicide attempts, surgery necessity, initial escharotomy, complications, and intensive care management have a negative influence on global BSHS-B-Sp scores. These characteristics increase morbidity

and have been discussed in the literature [1]. Depression and pain related to anxiety have also a negative impact on quality of life scales [24].

Heat sensitivity

Length of stay, TBSA, upper extremity burns, initial escharotomy, complications, and intensive care management are related to lower scores in subdomain Heat Sensitivity. However, enzymatic debridement is related to better scores, which is according to the literature[25].

Affect

Genitalia and abdomen burns and surgery necessity are associated with lower scores in subdomain Affect. In contrast, male gender is associated with better scores.

Hand function

Initial escharotomy and inhalation injury are associated with lower scores in this subdomain. However, people with hand burns did not show statistically differences, as other studies [24].

Treatment regimens

Initial escharotomy, abdomen burns, complications, and intensive care management are related to lower scores in this subdomain.

Work

TBSA, upper extremity burns, suicide attempts, initial escharotomy, complications, and intensive care management have a negative impact on subdomain Work scores. Dyster et al. [26] showed that returning to work depends on burns severity and type of personality. Those who did not return to work have lower quality of life scores and poor physical and psychological health [27].

Sexuality

Genitalia burns, age, being retired/pensioner and surgery necessity are related to lower scores in this subdomain. The physiological decline of sexual desire in old and retired people could explain these findings.

Interpersonal relationships

Only genitalia burns were associated to lower scores in Interpersonal Relationships. Surprisingly, head and neck burns were not associated to worse scores in this subdomain.

Simple abilities

Length of stay, TBSA, head and neck burns, inhalation injury, complications, and intensive care management are related to worse scores in subdomain Simple Abilities.

Body image

Length of stay, TBSA, lower extremity burns, suicide attempts, surgery necessity, initial escharotomy, and complications are associated with lower scores in this subdomain. However, enzymatic debridement is associated to better results in Body Image.

Limitations

Limitations of the current study must be considered. This study was conducted in one institution and retest method was completed on 16 patients. Nevertheless, the good scores in relation with internal consistency and construct validity make possible to use the BSHS-B Spanish version in clinical practice.

Conclusions

The BSHS-B-Sp reports good results in relation with reliability, construct validity, and stability in time, supporting its application to determine the QoL of burn patients. The use of quality of life questionnaires should be implemented routinely to achieve good results and multidisciplinary approach.

Author contribution All authors contributed to the study conception and design. All authors read and approved the final manuscript.

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Declarations

Ethics approval This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee of Andalusian Healthcare System. The ethics committee code is 2680-N-20.

Consent to participate Patients provided written consent to participate in the study as well as to share their data.

Conflict of interest Antonio García-Díaz, Purificación Gacto-Sánchez, Antonio José Durán-Romero, Alejandro Ruiz-Moya, Julia Molina-

Morales, Salvador Carrasco-García, Tomás Gómez-Cía, and José-Juan Pereyra-Rodríguez declare no competing interests.

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