



## CORRELATION OF POST BURNS PATIENT'S CHARACTERISTICS WITH PATIENT'S QUALITY OF LIFE BASED ON BURNS SPECIFIC HEALTH SCALE - BRIEF (BSHS-B) AT H. ADAM MALIK GENERAL HOSPITAL

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### KEYWORDS :

#### Background

The burns and other related injuries that accompany them, are still one of the leading causes of death and disability worldwide, causing physical, psychological and economic harm in community. Therefore burns are considered as one of the major health complications. From 2003 to 2005, the lowest prevalence of burns was recorded in Singapore with 0.12% per 100,000 people and the highest was in Hungary with 1.98% (Druery, 2005). By 2014 the WHO estimated that there are 265,000 deaths occurring due to burns worldwide (WHO, 2014).

In Indonesia approximately 2.5 million people suffer burns every year. Of this group, 200,000 patients require outpatient treatment and 100,000 patients are hospitalized. The prevalence of burns in 2013 in Indonesia was 0.7% and has decreased by 1.5 compared to 2008 (2.2%) with the highest prevalence in NAD Province and Riau Islands (3.8%) (Ministry of Health, 2013).

In recent years, the quality of life has been proposed as an important index for evaluating personal health and assessing the overall health of communities to find the main problems of various aspects of the lives of individuals, especially patients with chronic medical conditions. Burn Specific Health Scale – Brief (BSHS-B) is a scale that has been established to evaluate recovery after burns. Awareness about quality of life will help health professionals to improve the quality of life of burns patients.

#### Methods

This study is an analytic study with cross sectional design. The study began in June 2017 where the data was obtained from 50 burn patients who had been treated in Plastic Surgery Division in H. Adam Malik Medan General Hospital during the period January 2011 to December 2015. Patients aged 18-65 years and willing to fill in BSHS-B questionnaires were included in the study. Methods of data collection was using BSHS-B questionnaire and then analyzed using SPSS program.

#### Results

Of 50 burn patients, this study found that the average age of subjects was 33.66 years old, with the youngest age 18 years old and the oldest 61 years old. The mean values (mean  $\pm$  SD) for each of the BSHS-B assessment variables were the length of stay (15.96  $\pm$  7.70 days) and total burn surface area (14.8  $\pm$  4.92%) (Table 1).

**Table 1. Characteristics of numerical variables of burn patients**

Characteristic	Mean	SD	Maximum	Minimum
Age (y.o)	33,66	9,68	61	18
Total burn surface area	14,8	4,93	29	7
Length of stay	15,96	7,70	35	6

Number of burns patients are 29 (58%) males and 21 (42%) females. This study found the age group 25-44 years old is the most age

group that suffered burns as many as 32 (64%) patients. Total burn surface area less than 20% were the most affected by 44 (88%) patients, with length of stay  $\leq$  21 days as many as 39 (78%) patients. The number of burn patients who have good quality of life as many as 8 (16%) subjects, less good as many as 30 (60%) subjects, not good as many as 12 (24%) subjects, and very not good quality of life as many as 0 (0%) subject (Table 2).

**Table 2. Characteristics of categorical variables of burn patients**

Characteristic	Frequency (n)	Percentage (%)
<b>Sex</b>		
Male	29	58
Female	21	42
<b>Age (y.o)</b>		
15-24	10	20
25-44	32	64
45-64	8	16
<b>Total burn surface area</b>		
$\leq$ 20%	44	88
> 20%	6	12
<b>Length of stay (days)</b>		
$\leq$ 21	39	78
> 21	11	22
<b>Quality of life</b>		
Good	8	16
Less Good	30	60
Not Good	12	24
Very not Good	0	0
TOTAL	50	100

In this study it was found the mean value each domain, i.e. simple abilities as many as 2  $\pm$  1.04, hand function as many as 3  $\pm$  1.27, affect as many as 3  $\pm$  0.65, interpersonal relationships as many as 3  $\pm$  0.62, sexuality as many as 2  $\pm$  0.83, body image as many as 2  $\pm$  0.81, heat sensitivity as many as 3  $\pm$  1.07, treatment regimens as many as 1  $\pm$  0.53, work as many as 2  $\pm$  0.76, and total mean BSHS – B score as many as 21  $\pm$  4.85 (Table 3).

**Table 3. Distribution BSHS – B Domain**

BSHS-B Domain	Mean	SD	Maximum	Minimum
Simple abilities	2	1,04	4	0
Hand function	3	1,27	4	0
Affect	3	0,65	4	2
Interpersonal relationships	3	0,62	4	2
Sexuality	2	0,83	4	1
Body image	2	0,81	4	1
Heat sensitivity	3	1,07	4	1
Treatment regimen	1	0,53	3	1
Work	2	0,76	3	0
<b>Total</b>	<b>21</b>	<b>0,485</b>	<b>32</b>	<b>13</b>

Based on the results of the analysis using Chi Square test, it is known that there is no correlation between sex and quality of life based on BSHS-B, seen from  $p = 0,806$ . Of the 50 burned patients, the age group of 25-44 years old is the most common age group as many as 32 (64%) patients. Of these 32 patients, 19 (59.4%) patients have very not good quality of life based on BSHS-B, so that there is no significant correlation between age with quality of life BSHS-B seen from  $p = 0,956$ . There was a significant correlation between total burn surface area and quality of life based on BSHS-B as seen from  $p = 0,021$ , because of the total of 50 patients, 44 (88%) suffer from  $\leq 20\%$  total burn surface area and 27 (61.4%) of them have very not good quality of life based on BSHS-B. Based on result of analysis by using Chi square test known that there is no significant correlation between length of stay with quality of life based on BSHS-B seen from  $p = 0,259$ , because from 50 burn patients, 39 (78 %) of patients have length of stay  $< 21$  days, and as many as 22 (56.4%) of them have very not good quality of life based on BSHS-B (Table 4).

**Table 4. Correlation between Post Burns Patient's Characteristics with Patient's Quality of Life Based on BSHS-B**

		Quality of Life				Total	p Value
		Good	Less Good	Not Good	Very not Good		
Sex	Male	8	27	9	0	44	0,806
	Female	0	3	3	0	6	
Age (y.o)	18-24	1	6	3	0	10	0,956
	25-44	6	19	7	0	32	
	45-64	1	5	2	0	8	
Total burn surface area (%)	$\leq 20$	8	27	9	0	44	0,021
	$> 20$	0	3	3	0	6	
Length of stay (days)	$\leq 21$	8	22	9	0	39	0,259
	$> 21$	0	8	3	0	11	
Total		8	30	12	0	50	

**Discussion**

Based on sex, burn patients were 29 (58%) males and 21 (42%) females. This is similar to studies by Kildal (2001), Stampolidis et al. (2012), Willebrand (2008), Wasiak et al. (2014) that found that men are the most subjects suffered burns. This is predicted as result of many burns occurring while performing jobs that are often performed by men, such as repairing electricity, working in a garage, using kerosene or gasoline, playing firecrackers, or burning the garbage.

The result of the analysis test to assess the correlation between age and quality of life based on BSHS-B concluded that there is no significant correlation between age with quality of life based on BSHS-B. Of the 50 burned patients, the age group of 25-44 years old is the most common age group as many as 32 (64%) patients. Of these 32 patients, 19 (59.4%) patients have very not good quality of life based on BSHS-B. This is in line with research conducted by Elsherbiny et al. (2010) which stated that there is no correlation between age and quality of life. This is, however, different from the research done by Connell et al. (2014) which stated that there is a significant correlation between age and quality of life based on BSHS-B. Younger burn patients ( $< 45$  years) are more able to overcome the physical, psychological, and social consequences independently of the burns.

Based on the results of analysis it is known that there is a significant correlation between total burn surface area with quality of life based on BSHS-B. This is in accordance with researches conducted by Elsherbiny et al. (2010) and Ahuja et al. (2015) which stated that there is a significant correlation between the total burn surface area and quality of life based on BSHS-B. Elsherbiny et al. (2010) argue that the wider total burn surface area ( $> 40\%$ ) in full thickness injury will increase the patient's inability to perform the function. Ahuja et al. (2015) also argues that the total burn surface area will also

negatively affect the quality of life of patients and treatment of burns are also a concern for the occurrence of contractures and the formation of scars that can affect the quality of life of these patients. The extent of burns is also important because it will affect the psychological picture and quality of life of the patient.

**Conclusion**

There was a significant correlation between total burn surface area with quality of life based on BSHS-B in post burn patients ( $p = 0,021$ ) in H. Adam Malik Hospital. There was no significant correlation between age ( $p = 0,956$ ), gender ( $p = 0,806$ ), and length of stay ( $p = 0,259$ ) with quality of life based on BSHS-B in post burn patients in H. Adam Malik Hospital.

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