

Original Article

Is the Quality of Life of Turkish Burn Patient's Family Affected During Acute Care?

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Abstract

Background: Burn is an important health problem frequently seen in Turkey and all over the world and serious burns affect the lives of patients as well as family members. Because lack of studies about that effects during acute care we aimed to resolve this gap in the literature.

Objective: The aim of this study is to investigate the quality of life of family members of burn patients and the affecting factors during acute care.

Methodology: This study was conducted as descriptive and correlational study between 2012 and 2013 in adult and child burn units of a university hospital in Turkey. The sample of the study was determined as 200 patient family members after the performed power analysis. In data collection, Personal Information Form and the World Health Organization Quality of Life Scale- Bref Turkish (WHOQOL-BREF TR) were used. In the analysis the descriptive statistics, independent samples t-test, Kruskal Wallis, Mann-Whitney U test were used.

Results: 58% of the family members were female and 82% of them were married. Being female and married affected family members quality of life negatively in psychological domain ($p < 0.05$). Giving care the patient suffering from pain affected family members quality of life in social domain ($p < 0.05$). Factors like working in a job, loss of organs seen in the patients did not affect the quality of life of the family members ($p > 0.05$).

Conclusion: In the present study, the quality of life of the family members was affected by four factors including physical, psychological, environmental and social domains. In the light of these results, it can be recommended to establish support groups where attendants of burn patients can share their experiences related to burn care and process.

Keywords: Burn patient, Famil member, Quality of Life

Introduction

Burn is an important health problem frequently seen in Turkey and all over the world (Peck, 2011; Reis et al., 2009). Each year, 265.000 people worldwide ("WHO | Burns," 2018), and 260 people in Turkey according to the data of 2016 lost their lives due to burn Turkey Statistical Institute, 2016," n.d.). Burning of the extremities and eyes creates difficulties in treatment and care because it can cause self-care deficiency and prevent functional activities of the patients in future (Kua Phek Hui, Allen, & Mok, 2016; McGarry et al., 2014). Family members of patient experience that difficulties more (Blakeney, et al., 2008). Because serious burns affect the lives of patients as well as family

members (Backstrom, et al., 2013). Patient family members feel emotional problems and anxieties about that injury when they first come to the hospital and especially in acute care (Rimmer et al., 2014). Emotions such as clumsiness, helplessness, guilt and excitement in helping their loved one among these anxieties (Curtis, 2008). In addition, pain seen in large burns, hypovolemic shock, and change in the body image increase the care burdens of the patient's family members and cause them to experience psychological trauma (Mezue, et al., 2011). The fact that one of their loved one goes through the burn treatment process can negatively affect patient family members wellness and quality of life physical, psychological, environmental and socially

(Unsar, 2017). For example, it is reported that the women experience psychological impairments due to the burn status of their spouses (P, Reddish, 1984), therefore, they are at risk in terms of post-traumatic stress disorder (Ceranoglu, 2006). In addition, burns physically lead to the suppression of the immune system of the patient family members in the first 72 hours (Shelby et al., 1992). Moreover, taking the pre-injury role responsibilities of the individual experiencing burn trauma affects family members in socio-economically (Sundara, 2011). It was stated in a study that the patient's family members experienced; tension in the family, staying away from the social environment, functional limitation (Adeniyi, et al., 2016), and obstacles in their daily activities (Karabuga & Pinar, 2013). Burn treatment causes the patient's individual needs to increase financially and affect the patient's family members negatively in the economic aspect (Stavrou et al., 2014). These negative circumstances would impair the quality of life of the family members.

In the interventions applied to the patient during the burn treatment and care process, the responsibility can be given to someone who have friendly relationship with the patients and can understand the reactions of the patients well (Luleci, Hey, & Subasi, 2008). Family members generally take these responsibilities in Turkey (Gunay, Sevinc, & Aslantas, 2017). Serious burns affect the life of the family members as well as the patient (Backstrom et al., 2013). Nurses who provide health service are responsible for maximizing the quality of life. However the nurses focus on the patient, the quality of life of family members is mostly ignored unfortunately. When the burn patients and their family members are evaluated holistically, the patients' family members need to be supported and their needs should be met during the acute care as well (Akarsu, et al., 2017). Family members who undertake the responsibility to provide care for the burn patient are unable to find opportunities to meet nutritional, sleep and hygiene needs especially during the acute care (Arikan, Guducu Tufekci, 2007; Terakye, 2011). These impossibilities may also affect the quality of life of the family members negatively. Supporting the patient's family members by psychological support sources (Bond, et al., 2017), nurses and social service experts meets their needs and thus

enhances their quality of lives (Martin, et al., 2016).

Upon the literature review, studies on burn patient's family members have focused on issues such as deterioration of the psychological state, an increase in the burden of care, and socioeconomic needs (Bond et al., 2017; Rimmer et al., 2014; Weedon & Potterton, 2011). Limited study was found about family members quality of life during acute care (Backstrom et al., 2013). The purpose of this study is investigate the burn patient family members quality of life and the affecting factors during acute care. It is also believed that the examination of this subject would be useful for creating literature knowledge and producing solution proposals.

Methods

Study Design

This study was conducted as a descriptive and correlational study design to investigate burn patient family members quality of life and the affecting factors. adult and child burn units of a university hospital in Turkey.

Participants and Data Collection

The population of the study consisted of family members who were over 18 years of age, had no diagnosed psychological problem and were giving care the patients being treated in the burn units of Turgut Ozal Medical Center for at least two weeks.

Before starting the study, a written permission from Malatya Clinical Trials Ethics Committee with the resolution code of (2012/143) and verbal consent from the family members of burn patient were obtained. The principle of "*Respect for Autonomy*" was fulfilled by explaining that the family member who were voluntary to participate in the study can withdraw from the study at anytime and the principle of "*Privacy and Protection of Confidentiality*" was fulfilled by stating that the individual information of the family member participating in the study would be kept confidential after being shared with the researcher. After a power analysis, 95% confidence interval and 94% power to represent the universe. The sample consisted of 200 patient family members who were giving care the patients being treated in the burn units. Family members of patients who met the inclusion criteria of the study (being literate and able to establish communication) included in the study. Patient's family members were selected from the

population by using improbable random sampling method during the days when the researcher was present in the burn unit. The data were collected by the researcher between July and December 2012 by staying in the adult and child burn units for 5 business days with the face-to-face interviews that took approximately 10 minutes until the number of family members reached to the number planned to be included in the sample group.

Instruments

In the data collection, the Personal Information Form prepared by the researcher and the World Health Organization Quality of Life Scale Bref (WHOQOL-BREF) were used. The personal information form consists of two sections. The first section includes questions about the socio-demographic characteristics of the family members. The second section includes questions about the patient's complaints. The World Health Organization Quality of Life Scale Bref (WHOQOL-BREF) consisting of 26 questions is an abbreviated version of the quality of life scale consisting of 100 questions prepared by the World Health Organization ("WHO Quality of life bref," n.d.). The Turkish validity and reliability study of the scale was conducted by Eser et al. and by adding a national question to the scale during the scale studies, the number of questions increased to 27 (Baydur & Eser, 1999). WHOQOL-BREF consists of four domains including physical, social, environmental and psychological and national environmental domains (Baydur & Eser, 1999). The 27th question in the Turkish version of WHOQOL-BREF is assessed separately in the form of a national environmental domain score while the scores obtained from the 1st and 2nd questions are used when calculating the validity of the scale (Baydur & Eser, 1999). The quality of life is also increasing in parallel with the increase in

physical, psychological, social, environmental and national environmental domain scores calculated from 4-20 points after applying the quality of life scale (Baydur & Eser, 1999). Eser et al., found that the internal consistency of the scale was between 0.53 and 0.83 (Baydur & Eser, 1999). In the present study, Cronbach's alpha values were taken as 0.91 for general quality of life, 0.74 for physical domain,

0.72 for psychological domain, 0.55 for social domain, and 0.78 for environmental domain. The significance level was taken as 0.05.

Statistical Analysis

The independent variables of the study were the data obtained from the personal information form; whereas, its dependent variables were the data obtained from WHOQOL-BREF. The data was analyzed in one statistic program after the data were coded by the researcher.

Percentages, mean and standard deviation were used to indicate the socio-demographic characteristics of the family members, Independent samples t-test, Kruskal Wallis, Mann-Whitney U test and analysis of variance were used to compare socio-demographic characteristics with the mean scores of WHOQOL-BREF.

Results

Socio-Demographic Characteristics of Family Members

It was determined that 58% of the family members were female, 82% were married, 59% were primary school graduates, 63% were unemployed, 56% had low income than their expenses, and 83% had no chronic disease. It was determined that the mean age of the family members was 35.17 ± 10.61 (18-67 years) and the duration of the care giving was 19.12 ± 6.47 (14-24 days) (Table 1).

Table 1: Socio-demographic characteristics of family members (n: 200)

Variable	n	(%)
Gender		
Female	116	58
Male	84	42
Marrital status		
Married	164	82
Single	36	18
Education		
Primary school	118	59
High school	62	31
Faculty	20	10
Income		
Low income than expenditure	113	56
Equal income to expenditure	77	38
Over income than expenditure	10	5
Chronic illness		
Absent	166	83
Present	34	17
Relativity to the patient		
Spouse	15	7.5
Child	23	11.5
Relative	58	29
Parent	104	52
Health Perception		
Bad	16	8
Good	165	82.5
Very good	19	9.5
		Mean±SD
Family Members' Age		35.17±10.61
Duration of Caregiving		19.12±6.47

Table 2: Comparison of family members whoqol-bref mean scores with socio-demographic characteristics (n:200)

Socio-Demographic Characteristics	Physical Domain X±SD	Social Domain X±SD	Enviromental Domain X±SD	Psychological Domain X±SD	National Environmental Domain X±SD
Gender					
Female	14.21±2.32	12.67±2.75	13.70±2.50	13.81±2.23	16.58±4.42
Male	14.78±2.15	13.34±2.62	14.00±2.12	14.40±2.02	16.85±4.56
t	-1.78	-1.73	-0.87	-1.91	-0.42
p	0.07	0.08	0.38	0.01	0.67
Marrital status					
Married	14.25±2.18	12.84±2.71	13.53±2.28	13.86±2.08	16.82±4.32
Single	15.34±2.44	13.48±2.66	15.19±2.16	14.94±2.30	16.11±5.10
t	-2.65	-1.27	-3.90	-2.74	0.87
p	0.01	0.20	0.00	0.01	0.38
Education					
Primary school	14.32±2.28	13.05±2.68	13.47±2.26	13.74±2.07	16.74±4.52
High school	14.40±2.15	12.36±2.51	13.87±2.23	14.17±1.99	16.25±4.45
Faculty	15.34±2.45	14.26±3.09 ^a	15.77±2.3 ^{a,b}	15.63±2.53 ^{a,b}	17.80±4.20
X ² _{k-w}	2.53	7.39	19.17	12.75	2.87
p	0.28	0.02	0.00	0.02	0.23
Income					
Less income than expenditure	14.06±2.23	12.38±2.68	13.19±2.12	13.57±2.08	16.03±4.94
Equal income to expenditure	14.89±2.12 ^c	13.59±2.61 ^c	14.51±2.27 ^c	14.63±1.99 ^c	17.45±3.72
Over income than expenditure	15.42±2.96	14.53±2.21 ^c	15.75±2.93 ^c	15.20±2.97	18.40±2.79
X ² _{k-w}	8.08	12.63	24.00	13.19	4.95
p	0.01	0.02	0.00	0.01	0.08
Chronic Disease					
Absent	14.61±2.22	12.97±12.90	13.93±13.30	14.07±2.15	16.45±4.56
Present	13.68±2.36	12.90±2.87	13.90±2.38	14.01±2.24	17.88±3.84
t	2.20	0.13	1.42	0.12	-1.70
p	0.02	0.89	0.15	0.89	.09
Health perception					
Bad	12.82±3.05	10.75±2.55	12.15±2.37	12.75±2.28	15.75±5.74
Good	14.40±2.00 ^d	13.13±2.58 ^d	13.80±2.16 ^d	14.04±2.01 ^d	16.77±4.37
Very good	16.24±2.59 ^{d,e}	13.26±3.18 ^d	15.47±2.88 ^{d,e}	14.06±2.16 ^{d,e}	16.84±4.33
X ² _{k-w}	14.36	10.40	14.40	9.87	0.36
p	0.01	0.00	0.01	0.00	0.83

(a):Significant difference between the group studying in high school.

(c):Significant difference between the group with less income than expense

(e):Significant difference between the group who perceive their health as "bad".

(b):Significant difference between the group studying in primary school.

(d):Significant difference between the group who perceive their health as "good".

Table 3: Comparison of whoqol-bref mean scores of family members according to burn patient's complains (n:200)

Complains	N	%	Physical Domain X±SD	Social Domain X±SD	Enviromental Domain X±SD	Psychological Domain X±SD	National Environmental Domain X±SD
Pain							
Absent	62	31	15.39±1.96	14.12±2.47	14.25±2.04	14.61±1.83	17.61±3.65
Present	138	69	14.03±2.27	12.43±2.65	13.63±2.45	13.81±2.25	16.28±4.75
t			4.06	4.25	1.74	2.44	1.95
p			.00	.00	.08	.01	.05
Sleep disturbance							
Absent	88	44	14.61±2.27	13.48±2.76	13.80±2.37	14.18±2.03	17.18±4.07
Present	112	56	14.33±2.27	12.54±2.60	13.84±2.34	13.97±2.26	16.32±4.74
t			0.86	2.45	-0.12	0.68	1.35
p			.39	.01	.90	.49	.17
Short of breathe							
Absent	167	83.5	14.45±2.22	13.00±2.74	13.80±2.31	14.11±2.13	16.67±4.57
Present	33	16.5	14.45±2.49	12.72±2.58	13.93±2.56	13.81±2.33	16.84±3.96
t			-0.01	0.54	-0.29	0.71	-0.20
p			.99	.59	.77	.47	.83
Nutrition problem							
Absent	115	57.5	14.68±2.24	13.53±2.63	13.98±2.32	14.29±2.16	16.76±4.33
Present	85	42.5	14.14±2.27	12.18±2.63	13.61±2.37	13.74±2.13	16.61±4.68
t			1.66	3.55	1.09	1.77	0.24
p			.09	.00	.27	.07	.81
Anxiety							
Absent	86	43	14.58±2.26	13.37±2.54	13.91±2.44	14.22±2.18	17.34±3.66
Present	114	57	14.35±2.27	12.64±2.80	13.76±2.28	13.94±2.14	16.21±4.95
t			0.70	1.91	0.43	0.91	1.79
p			.48	.05	.66	.36	.07

Comparison of the Socio-Demographic Characteristics of Family Members and Their Mean Scores of The Subscales of WHOQOL-BREF

When the socio-demographic characteristics of the family members participating in the study and their mean scores from the subscales of WHOQOL-BREF scale were compared, some statistically significant results were found. When the physical domain mean scores and the marital status ($p=0.00$), education ($p=0.00$), and the health perception ($p=0.01$), the difference between the groups was found statistically significant. When the mean scores of psychological domain were compared with the gender ($p=0.01$), marital status ($p=0.01$), education ($p=0.02$), income ($p=0.01$) and the health perception ($p=0.00$), the difference was found statistically significant. (Table 2).

status ($p=0.01$), income ($p=0.01$), and health perception ($p=0.01$) of the family members were compared, the difference between the groups was found statistically significant. In addition, when the social domain mean scores were compared with the education ($p=0.02$), income ($p=0.02$) and health perception, the statistically significant difference was determined. When the mean scores of environmental domain were compared with the marital status ($p=0.00$), income

Comparison of the Family Members' Mean Scores from the Subscales Of WHOQOL-BREF Scale According to the Complains of the Burn Patient

Family members mean scores from the subscales of WHOQOL-BREF scale were compared to the burn patients' complains and statistically significant results were found. When the social domain mean scores were compared with the

pain seen in the patient ($p=0.00$), sleeping problem ($p=0.01$), nutrition problem ($p=0.00$) and anxiety ($p=0.05$), the difference between the groups was found statistically significant. The quality of life scores of the family member of a patient suffering from pain in the physical domain ($p=0.00$), social domain ($p=0.00$), psychological domain ($p=0.01$) and national environmental domain ($p=0.05$) were found statistically significant (Table 3).

Discussion

The quality of life continues to be up-to-date to be an important subject including patients and also their caregiving family members. Studies on burns focused on issues such as deterioration of psychological status of family members, increase in care burden and socio economic needs. A limited number of studies have been conducted in the literature on the quality of life of family members of burned patients who undertake the care mission in the hospital environment in relation to these problems (Backstrom et al., 2013). This study was conducted to investigate the burn patient family members quality of life and the affecting factors during acute care.

According to the result of the present study, the women's quality of life was low in physical, social, environmental and psychological domains and a statistically significant difference was found between the groups in terms of mean scores of psychological domain scale. Women often assume the care tasks in Turkish society (Gunay et al., 2017). The woman's responsibility to care alongside her wife and mother roles also increases her burden (Yesil U, Cetinkaya Ulusoy E, 2016). Nonetheless, the emotional nature of women suggests that depressive symptoms are more likely to be overestimated, difficult to cope with care-related problems, and psychological stress life than men's psychological impact from burn injuries seen in their loved one.

As a result of current study, the quality of life of the participants with high level of education was significantly higher in the environmental and psychological domain. Findings of current study are consistent with the literature. Individuals with high educational level had high level of quality of life (Zamzam et al., 2011). High school graduate caregivers were better in coping with their problems (Arikan, Guducu Tufekci, 2007). As a result of current study, the quality of life of family members who did not work in a job was found low. The quality of life of caregivers who

did not work in any job was low (Backstrom et al., 2013). In a previous study, it was stated that the quality of life of caregivers with "low" economic status was more affected in the social domain (Tel, et al., 2012). The quality of life of caregivers with low income level was found to be low in physical domain in another study (Duggleby, et al., 2011). These studies support the conclusion of the present study.

With the increase in the level of education, financial opportunities also increase and the increase of economic opportunities brings up the problem-solving capacity and the rate of life satisfaction in life (Baumann, et al., 2012). High education level allows the opportunity to cope with the other stressors in life an easier way as well as difficulties about the care (Awadalla, et al., 2006). The high socioeconomic status of individuals with high levels of education also improves the health of the individual (39), reducing the risk of chronic diseases according to low socio-economic levels. Because of these reasons, it is thought that the quality of life of individuals with high educational level is high in terms of social, psychological and environmental domains.

It was found that in the previous study the quality of life scores of individuals without any chronic disease were significantly higher in physical domain; whereas, the scores of the group with poor health perception were low in physical, psychological, social and environmental domains (Hacialioglu, et al., 2010). The results of this study are in parallel with the results of the present study.

The physical, psychological and social health of individuals providing care to their patients can be negatively affected. Therefore quality of life would be affected negatively too.

The quality of life of family members of burn patients with pain in current study was negatively affected in all domains except the environmental domain. Pain is the most traumatic condition experienced by burned patients (Horridge, Cohen, & Gaskell, 2009). Treatments and infections of burns in the acute phase cause this condition to be become more intense (de Sousa, 2010). This traumatic situation, which increases the risk of post traumatic stress disorder (Cukor, et al., 2015) and negatively affects the quality of life of burn patients, also causes the quality of life of family members to be affected (Backstrom et al., 2013, Aciksoz, Uzun, Tunay, 2016). For

example, giving care to a patient with a pain increases the care burden (Li et al., 2016) for the family member and increases the susceptibility to depression (Stengler-Wenzke, et al., 2006). Family members' focus on this devastating case increases their anxiety (Sundara, 2011). Because of these reasons, it is thought that the quality of life of family members of burn patients is affected negatively during acute care.

Conclusion and Recommendations

In the present study, the quality of life of family members was influenced in terms of socio-demographic characteristics such as gender, marital status, education, income, presence of chronic disease and health status mentioned in previous studies. It was found that the pain condition that seen in the patient affected the quality of life of the family members during acute care.

In the light of results of the present study, it can be suggested to establish support groups where the family member of burn patients can share their experiences during the burn care and process, provide training to the family members about the burn care and treatment process to coping with the patient's problems during acute and to examine the quality of life of the family members of burn patients in certain intervals.

Implications for nursing practice

It is thought that consideration of the life quality of the family members with burn patients will allow the nurses to improve the quality of care and it would be useful approach.

Study limitation

The limitation of this study is the use of improbable random sampling method in the selection of samples from the sample. For this reason, the results of the research can only be generalized to this group

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