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Research Article

EVALUATION OF THE RELATIONSHIP BETWEEN SPIRITUAL WELL-BEING AND SURGICAL FEAR IN LIVER TRANSPLANT CANDIDATES

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Abstract: *This study was conducted to evaluate the relationship between spiritual well-being and surgical fear in liver transplant candidates. This study is a cross-sectional study conducted with 124 liver transplant candidate patients admitted to a university liver transplant center. Personal Information Form, Spiritual Well-Being Scale (SWBS), and Surgical Fear Scale (SFS) were used to collect data. It was determined that the patients' spiritual well-being was 24,59 ± 9,20 and their surgical fear was 40,11 ± 10,94. In the study, it was determined that there was a statistically negative correlation between the patients' spiritual well-being and surgical fear (r=-0.248, p<0.01). This study proved that liver transplant candidates with high levels of spiritual well-being have lower levels of surgical fear. For this reason, awareness of spiritual well-being should be developed in healthcare professionals and it is recommended that they provide healthcare services that provide moral and social support to patients.*

Keywords*: Liver transplant, surgical fear, spiritual well-being.*

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1. Introduction

Liver transplantation is one of the frequently preferred medical options in terminal liver disease because it provides long survival and good quality of life [1]. On the other hand, solid organ transplantation practices cause several complications such as life-threatening infection, acute and chronic rejection, malignancies, recurrent organ failure, and death [2]. Although surgical interventions, such as liver transplantation, are practices aimed at preserving life and improving health status, they are both physiological and psychological trauma for the patient due to the complications that may occur both during and after the surgery [3]. Surgical intervention causes psychological problems in patients such as fear, anxiety, irritability, emotional instability, and feelings of inadequacy [4]. The most common emotional reaction among these reactions is the patient's fear of the surgery process and the postoperative period [5].

Before the surgical procedure; factors such as pain, waiting for the operation, concern about organ and tissue loss, possible physical or mental harm of the surgery, possible distortions in body image, separation from the social environment, and addiction anxiety can be listed among the factors that cause surgical fear in patients [6,7]. The level of knowledge about the surgical operation, previous anesthesia and surgery experience, the type of surgical intervention to be performed, and the degree of difficulty and risk affect the patient's level of surgical fear. Preoperative fear leads to postoperative depression, anxiety, prolonged wound healing and hospital stay, use of additional anesthetic drugs, and excessive

use of analgesics in the postoperative period [8,9]. For this reason, it is important to determine the surgical fear levels of patients and the affecting factors and to plan and implement the necessary interventions. It is thought that spiritual well-being, which is known to have a positive effect on the mental state of patients, will affect the level of surgical fear.

Spirituality is the essence of a human being: The meaning of life, and feeling of connectedness to transcendental phenomena such as the universe or god [10–13]. Spirituality is also part of comprehensive palliative care as defined by the World Health Organization [14]. Spiritual well-being gives individuals hope, helps them find meaning in their lives, and thus increases their well-being. Individuals with a high level of spiritual well-being can cope better with negative events [15]. There are studies in the literature showing that spiritual well-being has positive effects on the clinical symptoms of diseases [16,17]. In this study, the relationship between spiritual well-being levels and surgical fears in liver transplant candidates will be investigated.

In the study, the following questions were tried to be answered

1. What is the spiritual well-being level of liver transplant candidates?
2. What is the surgical fear of liver transplant candidates?
3. Is there a significant relationship between the spiritual well-being and surgical fear of liver transplant candidates?

2. Methods

This study is descriptive and cross-sectional.

2.1. Research design and participants

This research was carried out with patients with liver transplant candidates who applied to the Liver Transplantation Institute of a university hospital in Turkey after obtaining the permission of the ethics committee. The purposive sampling method was used in sample selection. As a result of the power analysis, the sample size of the study consisted of 124 patients with a significance level of 0.05, a confidence interval of 0.95, an effect size of 0.5, and a representative power of 0.5.

2.1.1 Inclusion criteria

- Being a liver transplant candidate,
- To volunteer to participate in the study,
- Be 18 years of age or older,
- No communication barriers.

2.1.2 Exclusion criteria

- Not being a liver transplant candidate,
- Patients under 18 years of age,
- Speak no Turkish, have communication barriers,
- Not willing to participate in research.

2.2. Data collection tools

The study data were collected using a personal information form, the spiritual well-being scale (SWBS), and the surgical fear scale (SFS).

Spiritual Well-Being Scale (SWBS)

The original scale, the Functional Assessment of Chronic Illness Therapy–Spiritual Well-being scale (FACIT–SP), was developed by Peterman et al. in 2002 [18]. Peterman et al. determined that the Cronbach's alpha value of the scale varied between 0.81 and 0.83. The Turkish validity and reliability

of the scale were performed by Aktürk et al., in 2017 [19]. The Cronbach's alpha coefficient of the scale varies between 0.81 and 0.89. The five-point Likert scale consists of 3 subscales meaning (2, 3, 5, 8), peace (1, 4, 6, 7), and faith (9, 10, 11, 12). Each item on the scale is scored between 0-4 points. While items 4 and 8 of the scale are scored reversely, the other items are scored directly. The total score of the subscales is 0-16. The total score interval of the scale is 0-48. A higher score means a higher spiritual well-being [19]. In the study, the Cronbach's alpha coefficient of the scale was found to be 0.898.

Surgical Fear Scale (SFS)

It was developed in 2014 to determine the level of fear caused by the short and long-term consequences of the surgical operation in patients undergoing elective surgery [20]. Its Turkish validity and reliability were tested by Bağdigen and Karaman Özlü in 2018 [21]. The 11-point Likert-type scale is composed of 8 items and scored between 0 and 10. Each item is scored in a range from 0= "not afraid at all" to 10= "very afraid." The scale consists of two subscales of fear of the short-term consequences of surgery and the long-term consequences of surgery (Items 1 to 4: fear of the short-term consequences of surgery; items 5 to 8: fear of the long-term consequences of surgery). The subscale total score is obtained by adding up the scores of 4 items in the subscales, and the total score of the scale is obtained by adding up the scores of the two subscales. The lowest score to be obtained from the subscales is 0, and the highest score is 40. The total score of the scale ranges from 0 to 80. A high score obtained from the scale indicates a high level of surgical fear [20]. In the study on the validity and reliability of the scale, the Cronbach Alpha internal consistency coefficient was found to be 0.93, while it was 0.96 for the subscale of short-term consequences (SFS-S) and 0.90 for the subscale of long-term consequences (SFS-L). In our study, the Cronbach's alpha coefficient of the scale was calculated as 0.83, and for the subscales, it was 0.82 (SFS-S) and 0.80 (SFS-L).

2.3. Ethics

Before the study, the ethical approvals were obtained from Turgut Ozal Medical Center Liver Transplant Institute and Malatya Turgut Özal University Ethics Committee (Decision No:2023/8). After the participants were informed about the voluntary submission of answers in the research, the purpose of the research, and how to use the results to be obtained from the research, their consent (informed consent principle) was obtained orally and in writing. The patients who participated in the study were told that the information about them would not be disclosed to anyone else and the "confidentiality principle" was complied with. The research was conducted following the Principles of the Declaration of Helsinki.

2.4. Statistical Analysis

After the data were coded by the researchers, data analysis was performed by using IBM SPSS (Statistical Package for the Social Sciences) Statistics 25. Pearson's correlation test was performed to analyze associations between surgical fear and the spiritual well-being of patients. Independent sample t-test and ANOVA test were used to examine to associations between the patients' identifying information with Surgical Fear Scale and Spiritual Well-Being Scale. In the evaluation of the obtained results, a 95% confidence interval and p-value less than 0.05 were taken into account.

3. Results

The distribution of the descriptive characteristics of the patients included in the research is shown in Table 1. It was determined that 33.9% of the patients were between the ages of 29-39, 52.4% were women, 71% were married, and 41.1% had high school education. It was determined that 83.1% of the

patients participating in the study had experience of being hospitalized at least 2 times in the past, 40.3% had experience of surgery once in the past, and 71.8% had additional chronic diseases.

Table 1. Demographics and Identifying Characteristics of Patients (n=124)

	Patients n(%)
Sex	
Male	59 (%47.6)
Female	65 (%52.4)
Age, years	
18-28	14 (11.3%)
29-39	42 (33.9%)
40-50	37 (29.8%)
>51	31 (25%)
Marital status	
Married	88 (71%)
Unmarried	36 (29%)
Educational status	
Illiterate	1 (0.9%)
Literate	13 (10.5%)
Elementary School	36 (29 %)
High School	51 (41.1 %)
University	23 (18.5%)
Previous hospitalization status	
None	3 (2.4%)
Once	18 (14.5%)
Two and more	103 (83.1%)
Previous surgery status	
None	59 (47.6%)
Once	50 (40.3%)
Two and more	15 (12.1%)
Existence of comorbid chronic physical disease	89 (71.8%)

Table 2 shows the spiritual well-being scale and surgical fear scale mean scores in liver transplant candidates. While the total score average of the SWBS was determined as 24.59 ± 9.20 (medium level), one of the sub-dimensions of the SWBS; meaning was determined to be 8.03 ± 3.34 (medium level), peace was 7.77 ± 3.29 (medium level), faith was 8.79 ± 3.41 (medium level). The surgical fear scale total score average was determined as 40.11 ± 10.94 (moderate level).

Table 2. Total Scores and Mean Scores Obtained from the SWBS and SFS

Scale	**Min-Max Score**	**$\bar{X}$ ± SD**
SFS	16-62	40,11 ± 10,94
SWBS	11-39	24,59 ± 9,20
SWBS meaning	2-14	8,03 ± 3,34
SWBS peace	1-15	7,77 ± 3,29
SWBS faith	0-14	8,79 ± 3,41

It is seen that there is a strong negative relationship between the SWBS and the SFS of the patients included in the study, and this situation is statistically significant ($r=-0.248$, $p < 0.005$) (Table 3).

Table 3. The Relationship Between the Patients' Surgical Fear and Their Spiritual Well-Being

	SFS	
	r	**p**
SWBS	-0.248	**0.006****
SWBS meaning	-0.257	**0.004****
SWBS peace	-0.201	**0.025***
SWBS faith	-0.222	**0.013 ***

r: Pearson's correlation test; *p<0.05; **:p<0.01

A comparison of the descriptive characteristics of the patients included in the study and the mean scores of the spiritual well-being scale and surgical fear scale are shown in Table 4. Accordingly, no statistically significant difference was found between age, gender, marital status, previous hospitalization status, number of previous surgical operations, and the presence of additional chronic diseases and the SFS (p>0.05). In addition, a significant difference was found between gender, marital status, number of previous surgical operations, and the SWBS average score (p<0.01).

Table 4. Comparison of the Patients' Identifying Information with Total Mean Scores Obtained from the SFS and the SWBS

	SFS $\bar{X}$ ± SD	p	SWBS $\bar{X}$ ± SD	p
Sex				
Male	38.5±10.2	0.107	26.8±9.1	**0.009****
Female	41.6±11.5		22.6±8.9	
Age, years				
18-28	33.1±9.7		23±8.8	
29-39	41.7±10	0.521	22.9±9.6	0.333
40-50	42.4±13.7		26.2±8.8	
>51	38.5±7.4		25.6±9.2	
Marital status				
Married	40.0±11.3	0.793	26.1±9	**0.003****
Unmarried	40.5±10.1		20.9±8.7	
Previous hospitalization status				
None	49.7±16.4		20.7±13.3	
Once	40.3±11.3	0.307	24.0±9.6	0.690
Two and more	39.8±10.7		24.8±9.1	
Previous surgery status				
None (1)	41.5±10		20.5±8.4	
Once (2)	39.7±12.5	0.183	27.7±8.6	**<0.001****
Two and more (3)	35.8±7.6		30.3±7.1	
Exist.of. chr. Disease				
Yes	40.9±10.8	0.209	24.8±9	0.697
No	38.1±11.3		24.1±10	

Independent sample t-test and ANOVA test was used ; **:p<0.01; *Post hoc: 1<2<3

4. Discussion

Liver transplantation is a surgical procedure that causes complex reactions in the patient and their relatives. Possible complications of the surgical procedure may cause surgical fear in transplant candidates. Fear of surgery before transplantation may bring about some psychological problems [8],

and psychological problems negatively affect the recovery process by triggering physiological problems and making the already stressful surgery experience even more difficult. The total SFS score average of the participants was determined to be 40.11 ± 10.94. Although there are many studies examining the mental state of transplantation patients in both international and national literature [1,22–24]; no study examining surgical fear has been found, and therefore our study will contribute to the literature. Çetin and Yılmaz examined the fear of surgery in patients undergoing gallbladder surgery in the surgery clinic and found the mean total score of the surgical fear scale to be 36.76±20.31 (moderate) [25]. Işıklı et al., in their study of 103 patients who were hospitalized in thoracic and cardiovascular surgery departments and underwent elective surgery, found that the total mean score of the patients on the surgical fear scale was 26.9±20.5 (low) [26]. In addition, a study in the literature states that preoperative anxiety and fear increase the severity of postoperative pain and cause the individual to need more analgesics and have difficulty in pain control [27]. In the literature, it is thought that there are different levels of surgical fear in patient groups undergoing different surgical operations and that this difference is affected by the type of operation to be performed, possible complications of this operation, and lifestyle changes that may occur as a result of the operation.

It was determined that the participants' total mean score from the SWBS was 24.59 ± 9.20. Only one study examining spiritual well-being in transplantation patients has been found in the literature. Gültekin et al., ın their study examining the relationship between spiritual well-being and psychological resilience in patients with liver transplantation, it was determined that the total score average of the participants on the Spiritual Well-Being Scale was 34.85±6.70 (high) [28]. In a study examining the relationship between pain beliefs, pain coping, and spiritual well-being in surgical patients, the patients' SWBS total score average was found to be 25.99 ± 8.43 (moderate) [29]. A high level of spiritual well-being will positively affect liver transplant candidates' psychological well-being and ability to cope with the disease.

In the study, a significant negative relationship was found between the patients' SWBS and SFS score averages. Surgery is an unexpected, risky quality of life, requiring extra effort and highly stressful experience for everyone. According to the data of the study, as individuals' spiritual well-being levels increased, their fear of surgery decreased. No study has been found in the literature examining the relationship between spiritual well-being and surgical fear in this patient group. Kapıkıran et al. In their study, they found a negative significant relationship between spiritual well-being and surgical fear in patients undergoing abdominal surgery [8]. The study result is parallel to our study.

In the study, when the descriptive characteristics of liver transplant candidates and the SWBS total score averages were compared, it was seen that there was a statistically significant difference between gender, marital status, previous surgery experience, and spiritual well-being ($p<0.01$). It was determined that spiritual well-being was higher in men and those who were married. Gültekin et al. Similarly, in their study of liver transplant patients, they found spiritual well-being to be high in men [28]. Cultural and power expectations of society from men may be considered the reason for the higher spiritual well-being of male patients. It is thought that the social support system is stronger in married patients and thus coping strategies are used more effectively and acceptance of the disease and positive thinking are improved.

5. Limitations of this study

The results obtained from this research are limited to liver transplant candidates in a single center within a certain period. Another limitation of the study is that the findings are based on cross-sectional data, which is less informative than that of a longitudinal study.

6. Conclusion

Preoperative anxiety and fear can affect postoperative wound healing, pain and anesthesia intensity, and analgesia requirements [30]. This study proved that liver transplant candidates with high levels of spiritual well-being have lower levels of surgical fear. For this reason, awareness of spiritual well-being should be developed in healthcare professionals and it is recommended that they provide healthcare services that provide moral and social support to patients.

The World Health Organization changed the definition of health in 1988 and revised it as “Health is a dynamic state of complete physical, mental, spiritual and social well-being and not merely the absence of disease or infirmity”. However, today studies are scarce in these contexts, as topics related to death and the human’s existential conditions are strongly censored. Patient care has been widely discussed in the literature in cases of illness requiring intensive care. However, the spiritual dimension has not been incorporated into patient care. Surgical fear causes negative mood and non-compliance with treatment in transplant patients and is a situation that needs to be addressed. Our study results showed that liver transplant candidates with high levels of spiritual well-being have lower levels of surgical fear. Therefore, future studies that evaluate the spiritual and religious needs of organ transplant candidates and implement intervention programs are needed.

Ethical Statement:

Before the study, institutional permission was obtained from the relevant hospital, and ethics committee approval (Decision Date:January 10, 2023; Decision No:2023/8) was obtained from the Malatya Turgut Özal University. In accordance with the Declaration of Helsinki, the patients were informed by reading the Volunteer Information Form to them by the researcher. Patients who volunteered to participate in the study were included upon taking their verbal consent.

Conflict of Interests:

There is no conflict of interest to declare.

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Authors’ contributions:

All authors participated in drafting the paper and gave final approval of the version to be submitted. Study conception and design: KK %50 and FKB %50; Acquisition of data: KK %50 and FKB %50; Analysis and interpretation of data: KK %50 and FKB %50; Drafting of the manuscript: KK %75 and FKB %25; Critical revision: KK,FKB.

All authors read and approved the final manuscript.

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