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Investigation of the Relationship Between Anxiety Levels of Patients Before Plastic Surgery Operation and Worship Practices in Muslims

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Abstract

There is an increasing interest in the effects of preoperative anxiety on the course and outcomes of surgical treatments and also in the studies about the anxiety-decreasing interventions. The present study aims to identify the relationship between the preoperative anxiety level of the individuals prior to aesthetic surgery operations such as nose, ear, eyelid, and mammoplasty and religious rituals such as performing prayers, fasting, and going to pilgrimage. The frequency of performing the religious rituals was identified through a questionnaire. The questionnaire included questions about the religious rituals such as performing prayers, going to a pilgrimage, and fasting as well as questions about sociodemographic features such as gender, age, and education level of the patients. Preoperative anxiety level was measured using the "Anxiety Specific to Surgery Questionnaire." The nonparametric Mann–Whitney *U* test was used for the scale score comparisons of the two independent groups. The scale score comparisons of more than two groups were performed using the Kruskal–Wallis test. The relationships between age and scale scores were analyzed using the Spearman's correlation coefficient. The study involved 117 patients who were planned to undergo an aesthetic surgery operation. The scale scores were significantly different according to the pilgrimage groups ($p=0.004$). The scale scores were significantly different according to the level of fasting ($p=0.022$). No significant differences were found between the scales scores of the groups who reported the frequency of performing prayer as never, sometimes or five times ($p=0.515$). In conclusion, the present study found that Muslim people who performed religious rituals more often experienced less preoperative anxiety levels in plastic surgeries, which indicates that the belief level is an effective factor in preoperative anxiety levels. The findings of the present study indicate that patients' beliefs and worship practices should be taken into consideration by doctors, operating room personnel, and even all health workers in order to decrease the anxiety levels of patients who will undergo surgery.

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Keywords Aesthetic surgery · Operation · Anxiety · Religious rituals · Religious belief · Worship practices

Introduction

The relationship between religious beliefs and health sciences has been subject to many studies, and important relationships have been reported (Drumhiller et al. 2018; Badanta-Romero et al. 2018; Al-Ghabeesh et al. 2018; Clark et al. 2018, 2019; van Randwijk et al. 2019; Atiyeh et al. 2008). Koenig HG defines religion as "an organized system of beliefs, practices, rituals, and symbols designed to facilitate closeness to the sacred or transcendent (God, higher power, or ultimate truth/reality)" (Koenig et al. 2001). As to a religious person, it is defined as a person who obeys the commands and prohibitions of the religion he or she believes in thoroughly and who is strongly committed to the religion and does its requirements (Koenig et al. 2001; Demir 2019).

According to the most important hadith source in the Islamic religion, Buhari (Buharî, İman 2; Muslim, İmân, 21), the Islamic religion is based on five pillars. The shahada, believing that there is no God but God and Muhammad is his prophet; performing daily prayers; giving of Alms; going to Pilgrimage; and fasting in the month of Ramadan are accepted as hadith. The fundamentals of Muslimism are the pillars of the Islamic religion. Pillars of Islam include reciting the kalima shahada, performing prayer, fasting, giving of Alms, and going to pilgrimage. The level of performing pillars of the Islamic religion is the most important indicator of religiousness in the Islamic religion (Muslu and Demir 2019).

Receiving a surgery is an important situation for patients in terms of causing anxiety. Pre-operation anxiety level is affected by factors such as the risk of the operation, patients' prejudices, religious beliefs, preparation process for the operation, and personality traits. In addition to waiting for the surgical intervention, anxiety could be caused by factors such as the meaning attributed to the operation by the patient, lack of knowledge about the things that could be experienced before or after the operation, potential negative outcomes, postoperative pain, interruptions in daily activities, living in an unknown place far away from family, and various medical practices. While a high level of anxiety experienced in the pre-operation period causes physical problems such as dizziness, nausea, and headache, it also affects the anxiety to be experienced after the operation. A number of studies in the literature report that the increased anxiety in the pre-operation period causes an increase in the need for analgesics during the operation and an increase in pain and analgesics in the postoperative period (Fındık and Topçu 2012).

There is an increasing interest in the effects of preoperative anxiety on the course and outcomes of surgical treatments and also in the studies about the anxiety-decreasing interventions. The present study aims to identify the relationship between the preoperative anxiety level of the individuals prior to aesthetic surgery operations such as nose, ear, eyelid, and mammoplasty and religious rituals such as performing prayers, fasting, and going to pilgrimage.

Materials and Methods

This study was conducted with the volunteer participation of 90 patients who applied to Hitit University Medical Faculty Çorum Erol Olçok Training and Research Hospital, Plastic, Reconstructive, and Aesthetic surgery polyclinics and who were planned to undergo one of the aesthetic-related operations such as nose, ear eyelid, and mammaplasty. Right before the patients went into the procedure, they were asked to fill in a questionnaire and a scale. The frequency of performing the religious rituals was identified through a questionnaire. The questionnaire included questions about the religious rituals such as performing prayers, going to a pilgrimage, and fasting as well as questions about sociodemographic features such as gender, age, and education level of the patients. In each item of the questionnaire, the participants indicated one of the frequency options about worship practices such as performing prayers, fasting, and going to pilgrimage. Various scales have been developed in order to measure religiousness in the Islamic religion (Coştu 2009). However, there are a number of criticisms about these scales due to the different interpretations of the concept of religiousness in different scientific fields and the subjective and multidimensional nature of the concept of religiousness. Therefore, instead of using a scale, the present study utilized a questionnaire with the groups that were formed according to the pillars of Islam, the most important rituals of the Islamic religion.

Preoperative anxiety level was measured using the "Anxiety Specific to Surgery Questionnaire (ASSQ)" developed by Karancı and Dirik (2003). The scale was scored using a five-point Likert scale (1: I totally disagree, 5: I totally agree). The scale is composed of ten statements about patients' potential surgery-related anxiety. Karancı and Dirik found the Cronbach's alpha coefficient of the scale as 0.79. The scores to be obtained from the scale range between 10 and 50. The scores obtained from the scale were compared according to the worship frequency groups.

The inclusion criteria were being 18 and over, applying to the Plastic, Reconstructive, and Aesthetic Surgery Clinics, and having a planned surgery operation. The exclusion criteria were being below 18. Sample size analysis was performed prior to the study in order to access sufficient power. Sample size analysis was performed using G-power (Version 3.1) package programming. The sample size was calculated using ANOVA, which is an appropriate statistical test for identifying whether the scale scores indicating the pre-operation anxiety level—the main hypothesis of the present study demonstrated any significant differences according to the prayer groups. Sample size analysis results indicated that with 80% power ($1-\beta=0.80$), $\alpha=0.05$ error value (95% confidence interval), and 0.335 effect size, and it was necessary to involve 30 participants in three different groups—totally 90 participants—for the groups formed according to performing prayer religious ritual so that a significant difference between the three groups could be revealed. However, for the probability of dissimilar distribution of the numbers between the groups, the sample size was increased 30%, and 117 patients were asked to fill in the questionnaire.

Statistical Analysis

Data obtained from the questionnaire and the scale were analyzed using SPSS (Version 22.0, SPSS Inc., Chicago, IL, USA, License: Hitit University) package programming. In line with the data distribution, descriptive statistics were reported as mean (minimum–maximum) and mean ± standard deviation for the continuous variables. Descriptive statistics of the categorical variables were presented with numbers and percentages (%). The normality distribution for the statistical test selection was analyzed using the Shapiro–Wilk test, and the homogeneity of the variances was analyzed with the Levene test. As the data were not distributed normally according to the worship frequency groups, the nonparametric Mann–Whitney *U* test was used for the scale score comparisons of the two independent groups. As the parametric test assumptions were not met, scale score comparisons of more than two groups were performed using the Kruskal–Wallis test. The relationships between age and scale scores were analyzed using the Spearman's correlation coefficient. $p < 0.05$ was taken as the statistical significance. All the participants involved in the study were informed about the study, and their consent forms were obtained.

Approval was obtained from the Hitit University Ethical Committee, and the study was conducted in accordance with the Declarations of Helsinki.

Results

The study involved 117 patients who were planned to undergo an aesthetic surgery operation. The average age of the participants was 39.86 ± 14.89. Of all the participants, 70 (59.8%) were female and 47 (40.2%) were male. 87 (74.4%) participants had an education level of high school or below, and 30 (25.6%) had an education level of university and above.

The groups that were formed according to thinking of going to pilgrimage were compared according to the Anxiety Specific to Surgery Questionnaire scores. The scale scores were significantly different according to the pilgrimage groups ($p = 0.004$; Table 1). The scale scores of those who went or thought of going to pilgrimage 17.5 (10–46) were significantly lower in comparison with the scale scores of those who did not go or who did not think of going to pilgrimage 22 (10–50).

Table 1 Comparison of Anxiety Specific to Surgery Questionnaire scores according to the levels of some worship practices

		N	Mean ± SD	Median (min–max)	*P* value
Thought of going to pilgrimage	I did not go/I do not think	60	22.84 ± 7.38	22 (10–50)	0.004*
	I went/I am thinking of going	57	19.57 ± 7.28	17.5 (10–46)	
Fasting	Never sometimes fasted	42	23.02 ± 7.58	23 (10–50)	0.022*
	Fasted in the month of Ramadan	75	20.12 ± 7.16	19 (10–46)	

*Mann–Whitney U test statistically significant and *SD* standard deviation

The Anxiety Specific to Surgery Questionnaire scores were compared according to the level of fasting. The scale scores were significantly different according to the level of fasting ($p=0.022$; Table 1). The scale scores of the groups who fasted throughout the month of Ramadan 19 (10–46) were significantly lower in comparison with the scale scores of the group who did not fast or who fasted occasionally 23 (10–50). Boxplot graphs in relation to the pilgrimage and fasting groups scale comparisons are given in Fig. 1.

The Anxiety Specific to Surgery Questionnaire scores were compared according to the level of performing prayers. No significant differences were found between the scale scores of the groups who reported the frequency of performing prayer as *never, sometimes, or five times* ($p=0.515$). The score of those who never performed prayers was 20 (13–40), and the score of those who sometimes performed prayer was 22 (10–50), and the score of those who performed five-time prayer was 17 (10–44). The boxplot graph of the scale comparisons of the prayer groups is given in Fig. 2. Although there was not a statistically significant difference, scale scores of those who performed five-time prayers were lower in comparison with the other groups (Table 2). In addition, the scale scores were compared according to education levels and gender (Table 3).

There were no significant differences between the scale scores of the gender and education level groups ($p=0.587$, $p=0.495$, respectively). There was no significant correlation between age and scale scores ($p=0.798$).

Discussion

The present study investigated the effect of the frequency of religious ritual practices on patients' pre-operation anxiety levels, and it obtained important findings. The results showed that the patients who went to pilgrimage or thought of going to pilgrimage had lower pre-operation anxiety levels. In a similar vein, the pre-operation

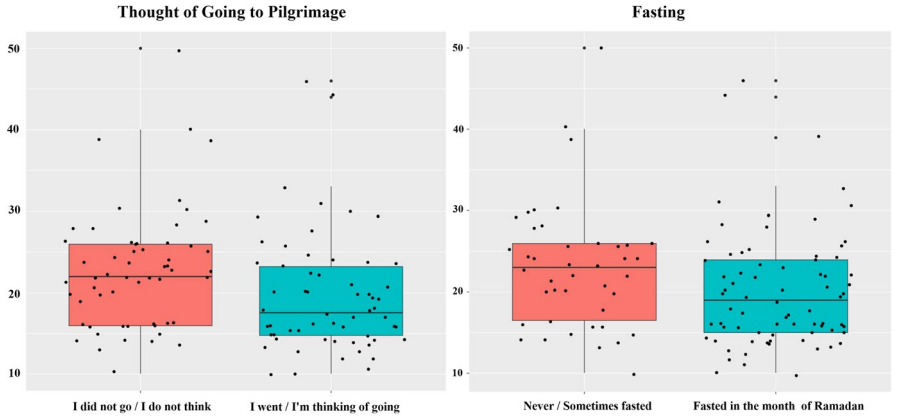

Fig. 1 Comparison of Anxiety Specific to Surgery Questionnaire according to the levels of thought of going to pilgrimage and fasting

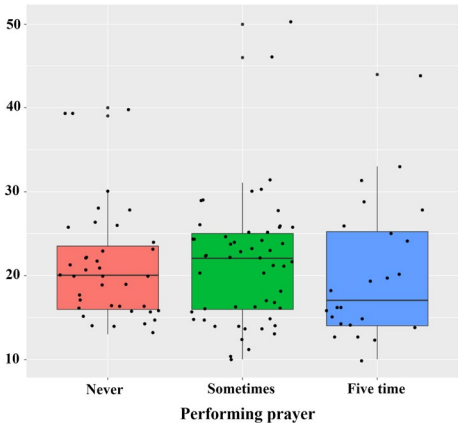

Fig. 2 Comparison of Anxiety Specific to Surgery Questionnaire according to the levels of performing prayer

Table 2 Comparison of Anxiety Specific to Surgery Questionnaire scores according to levels of performing prayer

		N	Mean ± SD	Median (min–max)	*P* value
Performing prayer	Never	39	21.31 ± 6.83	20 (13–40)	0.515
	Sometimes	54	21.48 ± 7.67	22 (10–50)	
	Five times	24	20.21 ± 8.24	17 (10–44)	

Kruskal–Wallis test and *SD* standard deviation

Table 3 Comparison of Anxiety Specific to Surgery Questionnaire scores according to the gender and education level

		N	Mean ± SD	Median (min–max)	*P* value
Gender	Male	47	20.83 ± 7.69	20 (10–46)	0.587
	Female	70	21.39 ± 7.38	20.5 (10–50)	
Education level	High school and below	87	21.02 ± 7.73	20 (10–50)	0.495
	University and above	30	21.57 ± 6.81	21 (10–39)	

Mann–Whitney *U* test and *SD* standard deviation

anxiety level of the patients who fasted throughout the month of Ramadan was lower. Although there were no significant differences between those who performed prayers more often and those who performed from time to time and never, the anxiety level of those who performed five-time prayer was a little lower in comparison with the other groups. This finding might result from the fact that going to pilgrimage and fasting—as the first five pillars of Islam—are more difficult pillars to be performed. In other words, performing five-time prayer is a more applicable task in comparison with fasting throughout the month of Ramadan and going to pilgrimage, which might explain why no significant differences were found in the prayer groups.

Kalkhoran and Karimollahi (2007) investigated the relationship between religious beliefs and preoperative anxiety and found that there was a reverse relationship

between religiousness and the level of anxiety, and yet, this relationship was not statistically significant. This finding might result from the fact that the sample was composed of participants with high religious and mild-to-medium-level anxiety characteristics. In the present study, the belief groups seem to have a more balanced distribution. Farag and Behzadi (2018) investigated the relationship between postoperative psychological stress in an acute environment and religiousness using a questionnaire and scale and found no significant relationships.

In their study conducted with a sample of 210 surgical patients in a tertiary healthcare institution in Nigeria, Aliche et al. (2018) investigated the role of religious commitment, emotion regulation, and social support in preoperative anxiety; they reported that interpersonal religious commitment was negatively associated with preoperative anxiety.

Babamohamadi et al. (2015) aimed to find out the effect of reading Koran to hemodialysis patients on their anxiety level and found that reading Koran had effects on decreasing anxiety in the intervention group; they reported that listening to Koran was an effective intervention for hemodialysis patients in Iran.

Although the literature has a number of studies that found no relationships, an active religious life leads to better health and outcomes of coping with medical anxiety. In this regard, the findings of this study indicating that preoperative anxiety decreases with the increase in the frequency of performing worship practices such as going to pilgrimage and fasting are in line with the related literature (Bay et al. 2008). The sample of the present study was the patients who applied to the Plastic, Reconstructive, and Aesthetic Surgery polyclinics. The relationship between preoperative anxiety level and religious beliefs was investigated with patients who were planned to undergo aesthetic operations such as nose, ear, eyelid, and mammoplasty. It is recommended that the study should be replicated with surgery, gynecology, and anesthesia fields with different sample groups.

Conclusion

In conclusion, the present study found that Muslim people who performed religious rituals more often experienced less preoperative anxiety levels in plastic surgeries, which indicates that the belief level is an effective factor in preoperative anxiety levels. The findings of the present study indicate that patients' beliefs and worship practices should be taken into consideration by doctors, operating room personnel, and even all health workers in order to decrease the anxiety levels of patients who will undergo surgery. In addition, the findings obtained from this study could be beneficial for the education of the students in medical sciences and people in various fields who are interested in patient care.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interests.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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