

## The effect of listening to Vaghe'a Surah and its translation on the state and trait anxiety before general surgeries: a Randomized Controlled Clinical Trial

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### Abstract

**Background and Objectives:** Patients experience moderate to high level of anxiety before general surgery. There are differences in studies on the effect of listening Quran to decrease anxiety in general surgery patients. The purpose of this study was to evaluate the effects of Vaghe'a Surah and its translation on the state - trait anxiety before general surgeries.

**Methods:** In this randomized controlled trial study, 60 patients who met the inclusion criteria were randomly allocated to the experiment and control groups. In the experiment group, Fifth researcher read Vaghe'a Surah and its translation for patients during 30 minutes in one day before surgery, whereas in the control group, patients had 30 minutes of rest in bed. The level of anxiety was measured before and after intervention and 30 minutes before surgery in two groups and was analyzed using Chi-Square, t-tests and repeated measure ANOVA.

**Results:** In the experimental group, mean scores of state anxiety decreased from  $43.3 \pm 3.1$  to  $29.8 \pm 2.1$  following intervention ( $p=0.03$ ). However, mean scores did not significantly change in the control group ( $p=0.5$ ).

**Conclusion:** The findings of the study demonstrated that the listening to Vaghe'a Surah and its translation can reduce anxiety before surgery.

**Keywords:** Anxiety, General Surgery, Islam, Quran

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## Introduction

In the United States of America, near 23 million people undergo surgery each year, generally experiencing preoperative anxiety (1). When patients undergo surgery, anxiety and depression can affect their physical and mental states; reducing these preoperative complications results in positive effects on the wellbeing of patients and are likely to positively influence the outcomes of surgery (2). More than 82 percent of patients had fear and anxiety before surgery (3). Anxiety increases blood levels of epinephrine and norepinephrine, resulting in increased blood pressure, heart rate, and myocardial oxygen demand (4). Velensola Millan et al. in their

study about “the reasons of anxiety before optional surgery” argue that factors such as fear of clinical environment (35%) fear of surgery (33%) fear of anesthesia (45%) and unawareness about surgery (45%) are the most important reasons of anxiety before surgery (5). Reading and listening to Vaghe'a Surah and its translation can decreased fear of surgery and anesthesia. Because Vaghe'a Surah and its translation can be relaxing in patients (6).

Many strategies such as sedative hypnotic agents have been developed for improving anxiety (7). However, these pharmacological agents are usually associated with adverse effects such as bradycardia, hypotension, gut

dysmotility, immobility, weakness, and delirium (8). Furthermore, despite protocols provided by clinicians, patients still experience significant levels of anxiety (9). Therefore, the new non-pharmacological treatments are taken into account. Complementary therapies including massage therapy, therapeutic touch, relaxation, aromatherapy, muscle relaxation, and music therapy are effective in reducing anxiety while reducing medication (10,11). Music therapy is one of the complementary therapies that could improve patients' anxiety. Furthermore, music therapy can increase patient comfort and facilitate conservation of energy in acute inpatient settings (2). Holy of Quran is a type of music (6). Liu et al. found that the music therapy reduced patients' anxiety in thoracic surgery (12). Whereas Nilsson et al. found no difference in pain and anxiety (13). The voice of Quran in Islamic countries, including Iran, is considered a mystical music (14). Religious behaviors such as reading Quran could reduce the stress and worries among hospitalized patients (15). Salarvand et al. found that the holy of Quran decreased patients' anxiety (6).

Vaghe'a Surah is one of Quran surah's that entails a description of heaven and its blessings. Reading it has been emphasized in the time of stress and anxiety (6). It is one surah's that talks about the heavens blessings and pure and holy people that go ahead of each other in doing good deeds and who are surrendered against powerful God's will. They are known as pioneers and Allah's favored. Surah then continuous to talk about heavens numerous blessing from foods to comforts that are promised to people who were surrendered to his will (16).

Nikbakht argue that reciting Quran does not have an effect on every kind of anxiety (17). Results of Mahjoob demonstrate that listening to Quran only reduce the state anxiety and doesn't have any effect on the trait anxiety (18). To the best of authors' knowledge, there seems to be a controversy about numerous studies conducted in the area of the effect of listening to the music on patients' anxiety. Only a limited number specifically evaluate the effect of listening to the voice of Quran on

patients' anxiety. Furthermore, people in different places have different beliefs and may have a different reaction, to hearing the voice of the Quran. Therefore, considering the above mentioned facts and according to the cultural, social and economic differences in Iran, we tried to perform this study as well as we could.

This study was conducted aiming at investigating the effect of listening to Vaghe'a Surah and its translation on the state and trait anxiety before general surgeries.

## Methods

This randomized controlled trial was conducted in March 2014 and April 2015. The study setting was surgery ward of Shahid Beheshti hospital in Kashan city, Iran.

The inclusion criteria were age 18 to up years, complete conciseness, no hearing impairments, average anxiety score above 20, no known anxiety diseases, no history of resolving psychological drugs, first time general surgery, patients undergoing general surgery (e.g., appendectomy, colon cancer surgery, cholecystectomy, hemorrhoidectomy, laparoscopic colon resection, laparoscopic and open ventral hernia repair and laparotomy). The exclusion criteria included the patient's reluctance to remain in the study and using tranquilizers or hypnotic-sedative agents during the study.

The sample size in each group was also confirmed based on the following assumptions: power=0.80,  $\alpha=0.05$ , the minimum expected difference in standard deviations=3.6, and the minimum expected difference in means=2.40 (19). Using the sample size formula, the optimal sample size of each group was calculated to be 30 patients. At first, 93 patients with general surgery entered to the study. Among those, 21 were not the inclusion criteria, and 12 patient's reluctance to remain in the study. Therefore, sixty patients were randomly allocated to the experiment and control groups (Figure 1).

The data collection instrument consisted of two parts. The first part included the demographic and clinical information (age, gender, marital status, education, believes in praying) and the second part included the

Spielberger State- Trait Anxiety Inventory (STAI). The STAI has 40 items. This scale assesses two subscales of trait anxiety and state anxiety each of which 20 themes. It is a psychological inventory based on a 4-point (e.g. from “almost never” to “almost always”). The total score for each subscales of STAI will be between 20 and 80. Higher scores represent higher anxiety and vice versa (20). STAI anxiety measurement is known to be good scientific evidence and it is noted as a standardized trial; high reliability (89%) and validity of the STAI was reported in other study (21). In this study Cronbach Alpha was 0.89.

Firstly, the researcher explained the objectives and obtaining written informed consent from the patients. The data were collected in day before surgery in 4.p.m. In this time word surgery was quiet and patients were not getting treatment.

All of the patients were under supervision of a general surgery specialist. Patients were in relaxing position in time intervention. Type of analgesic drugs used and type of surgery were the same for all patients. Data demographic and State-Trait Anxiety were measured in the before intervention.

Patients were moved to a quiet room in day before surgery. Then, those in the experiment group listened to Vaghe'a Surah and its translation. It read by Fifth researcher for each patient for 30 minutes. The patients in the control group only rested during this period. The room conditions were the same for two groups in terms of humidity (30% to 45%), temperature (23°C to 26°C) and light (dim light was used). The state and trait anxiety in the two groups were measured in three times: before and after finishing listening to Vaghe'a Surah and its translation and also 30 minutes before surgery.

The Ethics Committee of Kashan University of Medical Sciences approved the study. The patients were informed of the aims and the process of the study, being free to participate in the study, or to withdraw from the study at any time, and ensured of the confidentiality of personal information. In addition, a written informed consent was received from each

participant. The protocol was designed in accordance with the ethical principles of the Helsinki Declaration.

The results were finally analyzed by SPSS software version 16 (SPSS, Chicago, IL, USA) using Chi-square, T-test and repeated measurements ANOVA with a significance level of  $P < 0.05$ . The normality the data was analyzed using Kolmogorov-Smirnov test. The difference between two groups regarding demographic and clinical data was assessed by independent-samples t-test and the Chi-square tests. The independent-samples t-test and repeated measurements ANOVA was used to assess the effects of listening to Vaghe'a Surah on level of anxiety in difference time.

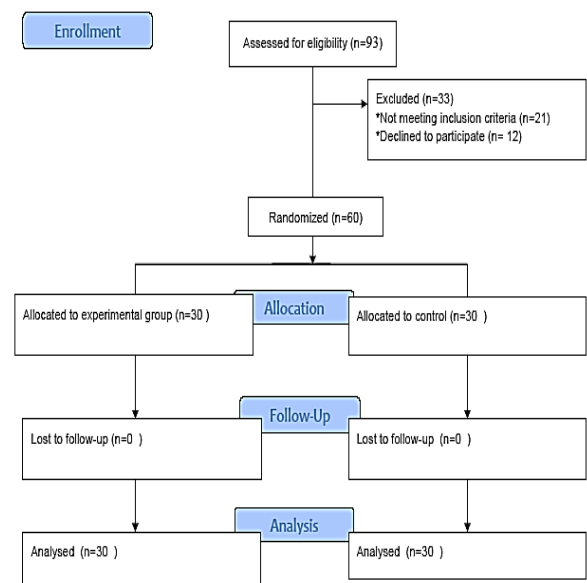


Figure 1: The Sampling Framework of the Stude

## Result

60% of the patients in the experiment group and 70% in control group were married. In the experiment group, 63.3% patients were female, as compared with 60% female in control group. As for educational level, 50% of the patients in the experiment group and 33.3% in the controls group had diploma (Table 1).

Mean scores of state and trait anxiety at different times prior to and after intervention are presented in Table 3. In the experiment group, mean scores of state anxiety decreased from  $43.3 \pm 3.1$  to  $29.8 \pm 2.1$  following intervention ( $p=0.03$ ). However, mean scores

Table 1: Patients demographic characteristics

Variables	group	Experiment group	Control group	Statistical test
Age group	18-30	8(26.6%)	9(30%)	X2= 3.21 P=0.21
	30-40	12(40%)	15(50%)	
	40-50	10(33.3%)	6(20%)	
Gender	Female	19(63.3%)	18(60%)	X2=2.79 P=0.09
	Male	11(36.6%)	12(40%)	
Marital status	Married	18(60%)	21(70%)	X2=4.11 P=0.08
	Single	11(36.6%)	9(30%)	
	Divorced	1(3.33%)	-	
Educational level	Secondary education	12(40%)	15(50%)	X2=3.6 P=0.46
	Diploma	15(50%)	10(33.3%)	
	Academic	3(10%)	5(16.6%)	
Believe in prayer	Believer	27(90%)	25(83.3%)	Fisher=2.1 P=0.1
	Non believer	3(10%)	5(16.6%)	

did not change significantly in the control group (p=0.5) (Table 2).

### Discussion

This study investigated the effect of listening to the Vaghe'a Surah and its translation on anxiety before general surgery. Based on the results of this study, Listening to Vaghe'a Surah and its interpretation significantly decreased postoperative state and trait anxiety in patients before general surgery. This is in line with the findings of studies conducted by Bradley Palmer et al (22) and Mahjoob et al (18) showed that Quran decreased patients' anxiety before surgery. The finding that listening to Quran was effective in reducing surgery anxiety is consistent with other study that found that the voice of Quran decreased state and trait anxiety among patients undergoing cardiac surgery (23).

Voss et al. found that music therapy had no significant effect on participants' anxiety (24). This finding is inconsistent with present study. Difference in results with the current study

may be related to differences in methodology of the intervention, sample size, duration of intervention. Furthermore, in the studies conducted by Voss et al. the intervention was the soft music, however, in the current study the intervention was the voice of Quran.

The present study found that the listening of Vaghe'a Surah and its interpretation significantly improved state and trait anxiety before general surgery. In line with the current study, Bagheri et al. found that the voice of Quran decreased state and trait anxiety among patients (15). In the different parts of the Quran, mention had been made of the relationship between the remembrance of Allah, and reading Quran with relaxation, which reduces anxiety. "We sent down of the Quran that which is a healing and a mercy to believers", "Those who believe, and whose hearts find comfort in the remembrance of Allah, is it not with the remembrance of Allah that hearts are satisfied" (16). It seems that listening to the voice of Quran diverts thoughts from anxiety, pain, and negative experiences to the pleasant thoughts (remembrance of Allah).

Table 2. Comparison between the state and trait anxiety score in two groups

Variables		Group		T-independent P-value
		Experimental Mean ± SD	Control Mean ± SD	
State anxiety	Before intervention	43.3±3.1	40.26±8.1	0.23
	After intervention	31.3±2.8	41.2±6.3	0.01
	The morning before surgery	29.8±2.1	41.2±6.2	0.02
Repeated measurements: P-value	-	F=2.37 P=0.03	F=4.65 P=0.5	-
Trait anxiety	Before intervention	43.5±4.1	42.1±5.3	0.45
	After intervention	38.3±4.5	41.2±4.3	0.05
	The morning before surgery	32.1±3.4	40.2±2.3	0.04

Therefore, it helped people to cope with emotional stress and decreased their anxiety (25). The success of Quran interventions may be greatly enhanced by familiarity and cultural contexts of the patients. The large effects for those who used Quran may be attributable to having something more pleasant to concentrate on or something to distract their minds from the anxiety and help them relax their bodies (26). Hojjati et al showed that listening to Quran improved memory in children (27).

#### Study Limitations

This study has several limitations. Different people have different levels of psychological development and hence, different abilities for coping with the strains and pressures. Moreover, different people have different beliefs, which may lead to different reactions to listening to the voice of Quran. These two factors might have affected findings of the present study.

#### Conclusion

The findings of this study indicate that Vaghe'a Surah and its translation can significantly reduce anxiety in patients before general surgery. Accordingly, healthcare providers can use the voice of Quran in combination with current treatments for improving patients' anxiety (15).

Furthermore, comparing the effects of voice of Quran with sedative-hypnotic drugs on patients' anxiety is also recommended.

#### Conflict of interest

The authors declare no conflict of interest.

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