

An Investigation into the Effect of Listening to the Voice of the Holy Quran on Vital Signs and Consciousness Level of Patients Admitted to the ICU Wards of Zabol University of Medical Sciences Hospitals

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Abstract

Introduction: Recent advances in medical sciences have increased the survival rate of injured patients and led to hospitalization of patients for a long time in the ICU wards. Patients admitted to special wards are confronted with considerable stress. Tension is usually associated with an increase in metabolic rate and, consequently, an increase in body temperature, in cardiac output and cardiac contractility, an increase in blood pressure, heart rate and respiratory rate. Therefore, the aim of this study was to investigate the helping effect of voice of the Quran on vital signs and level of consciousness in the patients admitted to the ICU wards”.

Materials and Methods: This study was a clinical trial. Thirty subjects were selected through random sampling method. For 10 consecutive days, Yousef Sura was played through a headphone for 15 minutes daily, and then physiological parameters, including systolic and diastolic blood pressure, respiration, pulse, and consciousness level were recorded by physiological indexes in two rounds, The first turn was 5 minutes before playing the Quran voice and the second one was immediately measured after completion of the Holy Quran broadcast. SPSS software version 22 was used to analyze the data.

Findings: Based on the results between the vital signs before and after the intervention, significant differences were observed ($p < 0.0001$) in that the rate of vital signs declined after intervention. Additionally, there was a significant difference between the level of consciousness before and after the intervention ($p < 0.0001$), increasing the level of consciousness after the intervention.

Conclusion: The results of this study show the effect of Quran verses on reducing vital signs and increasing the level of consciousness. Considering this easy and cost-free method, it can be used to provide an effective step in improving the conditions of patients admitted to special wards and for other patients suffering from tension and instability of vital signs due to various causes.

Key words: Quranic Voices, Vital Signs, Consciousness Level

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Introduction

The Quran is a scripture of Muslims covering the entire dimensions of human life and naturally, treating illnesses can be one dimension of numerous dimensions of the Holy Quranic verses, and it is the duty of Muslim physicians to reveal the effect of this dimension (1). One of the aspects of the miracle of the Quranic scripture is to explain the truth not revealed to the scientists at the time of its decline, and the scientific advances in later centuries and ages have confirmed its correctness. The Holy Quran has many verses in the field of health and medical science, and it may be discovered in the future that we have not yet reached (2). Here are some of the Quranic verses on medical issues: attention to eating fruit and protein foods (Vagheha 20/21) and (Taur /22), birth pain relief (Maryam / 25), intensity of pain in the skin (Nesaa / 56), topical treatment of skin diseases in cold (p. 42), and its relationship with blindness (Yousef / 84), references to ulcerations due to immobility (Kahf / 18), psychological effect of the colour green (Rahman / 76), (Ensan / 21), and (Kahf / 31), ablutions and purity (cleanliness) of some parts of the body that are in contact with germs (Maedeh / 6), avoidance of overeating (Araaf / 31) harmfulness of sexual contact in menstrual cycle (Baghara / 222), hint to anxiety in aging (Nahl / 70), the healing effect of honey and its production by the female bee (Nahl / 69) (3).

In Quranic therapy, it has always been emphasized that the Quran is essentially effective in treating persons with various medical conditions. Since human beings have a holism with physical, spiritual and supersensible dimensions, and these dimensions cannot be separated, any intervention in one dimension will affect the other dimensions. In this regard, "prayer and spirituality" as a method of treatment have also been presented in other countries, so that in different studies, the therapeutic effect of them has been studied on improvement of diseases. These studies have been performed in cardiovascular patients, and patients with rheumatoid arthritis and neurovascular events (4, 5).

The Quran is a sound wave that has a specific frequency and wavelength, and this kind of wave produces oscillating strands affecting the brain cells and restoring their balance and harmony. These factors can increase the body's defense against diseases (6). The magnificent effect of this divine blessing on the treatment of pain is to the extent that some countries and communities have begun to pray and read the Quran in order to cure physical and mental illness of patients, as it has been scientifically shown that hearing the sound of the Holy Quran can reduce mental stress in humans (5).

Recent advances in medical science and improved care services have led to an increase in the survivability of injured patients, but these improvements have not completely guaranteed patients' return to pre-illness condition. This has led patients to be hospitalized for a long time in the ICU. On the other hand, admission is a stressful factor. Patients admitted to special wards are confronted with considerable stress. It is estimated that 30% to

70% of patients in ICUs experience severe physiological stress (7). Consequently, tension usually increases heart rate and increases the risk of arrhythmias. A number of physiological responses repeatedly observed in tension include increased metabolic rate and consequently increased body temperature, increased exertion and cardiac output, followed by increased blood pressure, heart rate and respiratory rate (8).

Currently, medications such as sedative medicines and analgesics are widely used to control the stress of patients in intensive care units. These drugs are expensive and have many complications, including weakening of the respiratory system and even death. Some studies have shown that the continued use of sedative drugs has delayed the separation of patients from mechanical ventilation and led to an increase in patient care costs (9). Today, much emphasis is placed on the use of complementary therapies in the health system, as complementary therapies have been called a psychological factor for relaxation in stressful situations (10). One of the complementary therapies is music therapy. Music therapy is a complementary therapy improving patients' well-being by increasing the threshold of stress and eliminating negative emotions, regulating internal processes, creating a relaxed state, enhancing the immune system, and helping the psychosocial, physiological and emotional integrity of the individual during treatment of disease and disability (7).

Extensive research has been conducted on music therapy. The results of these studies have agreed on reduced anxiety and a sedative state, but, with regard to the anti-anxiety effects of sedative music, the evidence is inconsistent with physiological indicators such as heart rate, respiration, and blood pressure. The results of Han et al. aiming at investigating the effect of relaxing music on physiological and anxiety indices in patients undergoing mechanical ventilation, showed that music decreased blood pressure, pulse rate and respiration (11). Meanwhile, Boy et al. in their study aimed to investigate the effect of relaxation music on physiological indices and relaxation in patients undergoing mechanical ventilation, and concluded that music had a significant effect on the relaxation of patients, but did not have a significant effect on physiological indices (systolic and diastolic blood pressures, respiratory rate and heart rate) (12).

One of the most beautiful voices is the beautiful sound of reciting Quranic verses as one of the most magnificent aspects of the miracle of the Holy Quran (2). The effect of listening to the Holy Quran on stressful and nervous individuals is such that 97% of these problems are reduced. Interestingly, these positive results were obtained, while many of these people were not even familiar with the Arabic language and did not understand the meaning of the verses.

However, by hearing the Quranic verses, they are relaxed, and this is due to the physiological effects of the Quran on their nervous system, since the human nervous system has been shown to respond positively to audio stimulus

with regular ups and downs (6). In Iran, several studies have been conducted on the effects of Quranic voices on patients in various fields and positive results have been obtained. For example, the results of the research of Ilder Abadi et al. (2003)) in order to investigate the effect of Quranic voice on the vital signs of patients before surgery showed that there was a significant difference in heart rate and respiratory rate in the intervention group compared to the control group (13).

Since the auditory sensation is the strongest sensation of the five senses and is the last sensation working in the anesthetized ICU patients, and due to limited research in this field as well as attention to the culture and beliefs of the studied area, we have investigated the effect of helping via the Holy Quran voice, the vital signs and level of consciousness of patients admitted to the ICU wards of hospitals affiliated with Zabol University of Medical Sciences.

Materials and Methods

The present study was a clinical trial and the study population included all patients admitted to the intensive care units of hospitals affiliated with Zabol University of Medical Science, which included the following inclusion criteria.

1. their families are satisfied with participating in the study.
2. The level of consciousness of the samples is 8-10 based on the Glasgow Comprehensive Standard
3. The hemodynamic status of the body is constant and stable in terms of water and electrolyte (these conditions are approved by the patient's therapist).
4. No hearing impairment.
5. Not receiving continuous intravenous sedative medicines.
6. Not hospitalized for more than one month.
7. No history of brain damage.
8. Not diabetic.
9. Not having cardiovascular disease and fat embolism.
10. Not having drug addiction.
11. Not having otorrhea .
12. Not having fracture or bleeding or neurosurgery in the temporal region.
13. Entering the study at least 24 hours after the stabilization of hemodynamic symptoms.

Exclusion criteria included:

- 1- Critical change in hemodynamic symptoms
- 2- Patient's death before the 10th day.

Finally, 30 people from the research community were selected by random sampling method and using the sample size formula. For 10 consecutive days, Yusef Sura was played with swinging rhythm for 15 minutes, daily via MP3 headphones, then physiological parameters, including systolic and diastolic blood pressure, respiration, pulse, and consciousness level were recorded by physiological indexes in two rounds. The first turn was 5 minutes before playing the Quran voice and the second one was immediately measured after completion of the Holy Quran broadcast.

Data were collected by demographic information-related questionnaire and disease questionnaire, physiological indexes registration form, Glasgow coma and biophysiological tools. The demographic information-related questionnaire included questions on patients' personal information, the history of reading, listening to the Quran, and information about the disease. Biophysiological tools included a mercury barometer, a stethoscope and a chronometer.

It is worth noting that GCS is the main tool for measuring the consciousness level of ICU patients, which is a standard tool and its validity and reliability have been confirmed. In order to increase the reliability of the biophysiological tools, these instruments were calibrated by one medical equipment engineer and then used. In order to analyze the data based on the assessment levels of variables, in addition to the descriptive statistics, inferential statistics methods were used, including parametric tests (T-paired) and non-parametric tests (the Mann-Whitney U test, the Kruskal-Wallis test, The Wilcoxon and Spearman correlation coefficient) by SPSS software version 22 .

Findings

In this study, 30 people were evaluated. The mean age of these individuals was 42.36 and the mean level of consciousness was 8.04. Most people were male (70%) married (66.67%) and had a Quranic record (70%). The findings also indicate that diastolic blood pressure, heart rate, and respiratory rate follow a normal distribution, while systolic blood pressure and consciousness levels have no normal distribution.

The findings showed that the mean of vital signs (systolic, diastolic, heart rate and respiratory rate) decreased after intervention in comparison with the pre-intervention, showing a statistically significant difference ($p < 0.0001$). Furthermore, the findings indicate that the mean level of consciousness after intervention was increased in comparison with the pre- intervention, and this difference in mean also has a significant difference ($p < 0.0001$). (Table 1- next page).

In addition, the findings of this study indicate that there is no significant relationship between age, sex, marital status, Quranic history of patients with values of vital signs and level of consciousness after intervention ($P < 0.05$). In fact, this finding suggests that the voice of the Holy Quran has influenced the vital signs and consciousness level of all individuals, even those who have not had a preceding record for the Quran.

Table 1: Evaluation of vital signs and level of alertness of patients before and after intervention

Variable	Before intervention	After intervention	Statistic Tests	P-value
	Mean±standard deviation	Mean±standard deviation		
GCS	9.11 ± 1,07	11.41 ± 1.12	Wilcoxon	< 0.0001
Systolic BP	131.14 ± 13.67	114.25 ± 13.03	Wilcoxon	< 0.0001
Diastolic BP	78.56 ±9.10	73.13 ± 8.58	T-Paired	< 0.0001
Heart rate	89.61 ± 8.86	75.87 ± 9.07	T-Paired	< 0.0001
No. of respiration	17.66 ± 1.61	15.15 ± 1.65	T-Paired	< 0.0001

Discussion

The results of this study indicate that there is a significant difference between the mean values of vital signs before and after the intervention, and this difference is statistically significant ($P < 0.0001$) so that mean systolic and diastolic blood pressure, heart rate and respiratory rate decreased after intervention, and GCS values increased after intervention.

Extensive research and investigation has been conducted on the miraculous effect of the Quranic verses on the treatment of physical and mental disorders and the modification of human health (7). The results of this study showed that listening to the Quranic verses is effective in reducing vital signs and increasing the level of consciousness in anesthetized patients in the intensive care unit (ICU).

Shirvani (2012) studied the effects of the Holy Quran on vital signs and arterial oxygen pressure in anesthetized patients admitted to the ICU ward and found that the Quran voice caused the patient's vital signs to stabilize and increased arterial oxygen pressure, being consistent with our research findings (14).

Moreover, Mir Baqer (2011) by comparing the effect of music and Quranic verses on the level of anxiety and vital signs of patients before abdominal surgery found that both music and Quranic verses had a positive effect on blood pressure, pulse rate and respiration, as well as anxiety level in patients. Thus, the Quranic voice is more effective which is consistent with the results of the present research (10).

Although the research on the effect of the Holy Quran on vital signs is limited, Majidi (2004) studied the effect of the Holy Quranic voice on the reduction of anxiety level before and after coronary angiography (2) and also Illderabadi (2001) by determining the effect of Quran audio on the level of anxiety before cardiovascular surgery (13) showed that those who listened to the Quran had lower levels of anxiety and more normal vital signs than the control group, being consistent with the results of the present study.

Keshavarz (2009) concluded in one study entitled "Investigation about the effect of Holy Quranic verse on physiological responses of premature infants who were admitted to the intensive care unit" that by playing Quranic verses, the pulse rate and respiration decreased in the intervention group compared to the control group. This result is also consistent with the results of our study (15).

In the field of music effect, there are different results. Nilsson (2008) stated that music stabilized vital signs (5). However, Wallace (2001) did not find any changes in blood pressure, pulse and respiration (16), which can be due to differences in the way patients are selected and the diversity in environmental and cultural conditions. The findings of this research reveal that listening to the Quran is effective in reducing blood pressure, pulse rate, and increasing arterial oxygen pressure in patients.

Conclusion

In nursing practices, the Quranic voice as an effective intervention can be part of a patient's care plan, serving as a non-invasive treatment tool in order to improve hemodynamic status and physiological indicators of the patient. In addition, performing these actions by nurses is highly important for paving the way for achieving professional independence.

On the other hand, providing the Quranic verses is a cheap technique that does not require significant human resources. Therefore, the voice of the Quran can play a role as a nursing intervention in the care of patients admitted to the ICU. It was also shown that in this study, the Quranic voice could be effective in improving the physiological indices (blood pressure, heart rate and respiration), and the level of consciousness in patients, and since the critical changes of these indices in patients admitted to the ICUs place patients in critical conditions, therefore, it is recommended that the Quranic voice be used in conjunction with other therapies in intensive care units.

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