



## Short Term Effects of Islamic Zikr on Anxiety, Stress, and Depression in Mothers of Children with Congenital Heart Disease

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### Authors' contributions

*This work was carried out in collaboration between all authors. Author MN is the corresponding author who designed the study, performed the statistical analysis, wrote the protocol, managed the literature searches and wrote the first draft of the manuscript. Authors TM and SS provided advice for the study design and managed the analyses of the data and supervised writing the manuscript. Authors SD and MJS provided advices in the study design and helped in data gathering. All authors read and approved the final manuscript.*

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### ABSTRACT

**Aim:** We investigated immediate short- term effect of Islamic Allah's remembrance on depression, stress and anxiety of mothers of the CHD patients.

**Study Design and Methodology:** The Depression, Anxiety, and Stress Scales (DASS-21) questionnaire was used in a quasi- experimental study. Outcome variables measured before and after of intervention and compared using paired t-test. A total of 123 mothers were participated in this study.

**Results:** Stress ( $P<0.0001$ ), anxiety ( $P<0.0001$ ), and depression ( $P<0.0001$ ) were reduced significantly after using Islamic Allah's remembrance.

**Conclusion:** Islamic Allah's remembrance has a considerable immediate short-term effect to reduce depression, anxiety and stress in mothers of the CHD patients.

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## 1. INTRODUCTION

Despite of regional variations, congenital heart disease (CHD) is the most prevalent congenital abnormality, worldwide [1,2]. It is described as a chronic disorder in the cardiovascular structure or function that are reveal at birth, with a live born prevalence of about 5–8 per 1000 in western countries [3,4]. With advances in palliative and corrective surgery, the numbers of children with CHD surviving to adulthood has increased significantly [5]. Due to these advances, 85% of patients are survived to the adult age [1].

Management of CHD at different stages of patient's life is a challenging task for patient and his/her parents [6]. Parents of children with CHD face a variety of stressors that are related to the nature of the disease and its treatment [7]. They continue to have concerns about how their child's illness and treatment affect their child's daily functioning, development, and overall wellbeing [8]. Therefore, parents of child who suffered from a chronic disorder such as CHD are at risk for lower quality of life and higher distress in advance [9,10].

Accordingly, regular monitoring of the quality of life and mental functions of parents of children with a chronic illness and subsequent interventions to improve their mental status have been encouraged [11-14].

In many communities, mothers are taking primary responsibility for the care and support of children and families [15]. Studies have shown that, in developing countries such as Iran, mothers play a key role in providing care for sick children and Fathers are usually responsible for the payment of costs and expenses [16]. Therefore, psychological and mental support of these mothers is one of the main duties of medical care providers [17,18].

There are studies which show the positive long term effects of religious beliefs on individual depression, anxiety and stress in different settings [19-21]. Moreover, in Islamic point of view, religious beliefs play fundamental role in individual inner peace mainly based on the holy Quran statement: "Now surely in Allah's remembrance do hearts find rest" [22]. Muslims believes that whole-hearted Allah's remembrance (In Islamic terms: Zikr) leads to

peace, even at the moment of remembrance. Therefore, they usually remember Allah when exposed to anxiety and stress and want to help from Him.

We designed and conducted a quasi-experimental study to investigate immediate short term effect of Allah's remembrance (in Islamic terms: Zikr) on anxiety, stress, and depression of the mothers of the children with CHD undergoing treatment.

## 2. MATERIALS AND METHODS

### 2.1 Study Design and Participants

A quasi-experimental study was conducted to compare pre-test and post-test measures of anxiety, depression and stress in one group. All CHD patients who admitted into two referral canters in Kerman, Iran during six months (July to December, 2014) were listed. The study's inclusion criteria'es were Patients' mothers who had no history of mental disorders, use of psychiatric medication or any drug abuse, who were Muslim, literate (At least passing elementary-school) and older than 20 years (to be mature enough to understand the meanings of Zikr) were eligible to participate in the study. Study aims and procedures were described for enrolled mothers and ask them if they can participate in the study. They were assured that their acceptance or rejection to participate in the study had no effect on their children's treatment. If a mother accepts verbally to participate in the study a written consent was obtained. Depression, anxiety, and stress were measured using short- form version of the Depression, Anxiety, and Stress Scales (DASS-21) [23,24]. Its reliability in Iranian populations has been confirmed in a study [25]. Study participants were asked to fill the DASS-21 two times. First time, at the start of the intervention (Before Allah's remembrance) and second at the end of it (After Allah's remembrance).

In an Islamic point of view, Allah's remembrance (Zikr) could be done verbally (Verbal Zikr) or non-verbally (Non-verbal Zikr). Non-verbal Allah's remembrance means remembering God in heart without any verbal statement. Regardless of the type of Zikr, one of the most common Islamic Zikrs is "Salavat", an ultimate spiritual remedy, which means sending salutation on the prophet

Mohammad. It is an ordered Zikr in Holy Quran [26].

Participants were trained and asked to use non-verbal Salavat for 12 times and then request health of their child from God and be hopeful to meet God their desire.

### 2.2 Ethical Approval

This study was approved by Ethical Committee of Kerman University of Medical Sciences. The mothers were assured that their acceptance or rejection to participate in the study had no effect on their children’s treatment. If a mother accepts verbally to participate in the study a written consent was obtained.

### 2.3 Statistical Analysis

Mean ± standard deviations (mean±SD) and counts (percentages) were used to describing characteristics of study participants. Paired t-test was applied to analyses the data in SPSS (Version 11.2). Type I error was considered at P < 0.05.

## 3. RESULTS

### 3.1 Demographic Characteristics

A total of 123 mothers were participated in this study. Mean of age of participants was 33.4±5.5 years. A majority of them (83%) were housekeeper. A number of eight mothers were heads of their household (Table 1).

**Table 1. Characteristics of study participants (n=123)**

| Factor                             |                     | Count (%)  |
|------------------------------------|---------------------|------------|
| Educational                        | High school or less | 54 (43.5)  |
|                                    | Diploma to BSc      | 64 (52)    |
|                                    | MSc and higher      | 5 (4.1)    |
| Employment                         | Housekeeper         | 102 (83)   |
|                                    | Employed            | 21 (17)    |
| Marital status                     | Divorced or widow   | 8 (6.5)    |
|                                    | married             | 115 (93.5) |
| Number of children (mean±SD)       |                     | 1.2±1.4    |
| Number of Family members (mean±SD) |                     | 2.7±1.3    |

At baseline measurement, participants reported moderate level of depression and stress, and extremely severe level of anxiety (Table 2).

**Table 2. Comparison of depression, anxiety and stress scores of participant**

| Outcome    | Mean±SD score based on the DASS-21 <sup>§</sup> |            | p-value* |
|------------|---|------------|----------|
|            | Before  | After      |          |
| Depression | 17.9±2.1  | 12.2±1.8   | ≤0.001   |
| Anxiety    | 20.6±9.1  | 12.28±2.6  | ≤0.001   |
| Stress     | 19.2±2.26                                       | 15.67±6.01 | ≤0.001   |

\*paired t-test P-value; § short form version of Depression, Anxiety and Stress Scales

Comparisons between before and after scores of depression, anxiety and stress showed that the level of depression (P<0.0001), anxiety (P<0.0001) and stress (P<0.0001) were reduced significantly from the baseline levels.

## 4. DISCUSSION

In this study we investigated immediate short-term effects of non-verbal Salavat, one of the most common Islamic Zikr, on depression, anxiety and stress of mothers whose child suffered from the CHD. Our results indicate that this type of Islamic Zikr has a significant immediate short-term effect of each of depression, anxiety and stress of participants.

Our finding is consistent with several previous published findings regarding effect of spiritual interventions or religious beliefs on depression, anxiety and stress of family members of patients who suffered from different illnesses [19-21,27,28]. However, there are also evidences which shown spirituality and religious beliefs had no or little effects on depression, anxiety and stress [29,30].

Two considerations should be kept in mind when we interpret effects of spiritual interventions. First, time between spiritual intervention and outcome measurement may be an important issue. There is a higher possibility of improvement in mental outcomes in short times compared to long times from intervention [21]. Based on the above-mentioned point, Islam has stressed on the repeated Allah’s remembrances [22]. Second, religious beliefs are different from using Zikr as a spiritual intervention. Religious beliefs lead to whole-hearted Zikrs which in Islamic point of view is along with fully trust on God and therefore lead to long time peacefulness. However, using spiritual interventions by persons who have not religious beliefs leads to short term effects [31].

Accordingly, because of the chronic nature of CHD and its subsequent long time stressors on the patients' mother, they need repeated Allah's remembrance to reduce their distress. Despite of need of CHD patients and their parents to spiritual care as well as other patients and their families [32,33], these care are rarely provided by physicians and nurses [34].

#### 4.1 Limitations

A quasi-experimental design was the most influential limitation of this study. Another limitation of this study was very short time between baseline and final outcome measurements. It may be leads to a diluted effect measurement. Our third limitation was relying on the DASS-21 questionnaire. It assessing symptoms of depression, anxiety and stress and is not a diagnostic test.

#### 5. CONCLUSION

Based on the study results, the most common Islamic Zikr (Salutation on Prophet Mohammad, in Islamic terms Salavat) has an immediate short-term effect to reducing anxiety, depression, and stress of the CHD patients' mothers. Nurses in Muslim countries and in other countries where patients' families are Muslim could use this method as a spiritual care.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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