

# The Association between Religiosity and Jurisprudential Information with Anxiety of Pregnant Mothers during Labor and Postpartum Pain

Sara Dokuhaki<sup>1</sup>, MSc;  Fatemeh Ghodrati<sup>2</sup>, PhD 

<sup>1</sup>Community Based Psychiatric Care Research Center, Department of Midwifery, School of Nursing and Midwifery, Shiraz University of Medical Sciences, Shiraz, Iran

<sup>2</sup>Department of Theology, Faculty of Humanities Science College, Yasouj University, Yasouj, Iran

\*Corresponding author: Fatemeh Ghodrati, PhD; Department of Theology, Faculty of Humanities Science College, Yasouj University, Yasouj, Iran. Tel/Fax: +98 7433220448, Email: fatima.arta2@gmail.com

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## Abstract

**Background:** Anxiety disorders are usually common in the reproductive age in which mothers will have better control with spiritual-religious supports. The objective of the present study was to investigate the association between religiosity and jurisprudential information with anxiety of pregnant mothers during labor and postpartum pain.

**Methods:** This cross-sectional study was conducted with a sample of 110 mothers in labor at Shoshtari and Zeinabiyeh hospitals, Shiraz, Iran in 2016. Convenience and purposive sampling methods were used. Research tools including Religious Attitude Questionnaire and Spielberger questionnaire were used to measure the maternal Religious Attitude anxiety level of mothers. The analysis by SPSS software version 16 was conducted using descriptive statistics, Chi-square tests, and ANOVA.

**Results:** There was a significant difference between the mean of anxiety and religious attitude ( $P < 0.001$ ). In mothers with a moderate religious attitude, 78% had moderate anxiety, 74% had mild anxiety and the remainder had no anxiety. The highest level of situational anxiety was moderate (54=49.1%) and had a statistically significant association with the level of religious attitude ( $P < 0.001$ ). The highest level of State anxiety was normal (52=47.3%) and then moderate (48=43.6%) and had no statistically significant association with the level of religious attitude ( $P = 0.327$ ).

**Conclusion:** There was an association between the level of religiosity in mothers and their reduced level of anxiety in labor. According to the culture of our society, it is important to pay attention to the religiosity dimension of human existence and plan to improve and perform them in the field of health care.

**Keywords:** Religiosity, Jurisprudent, Information, Anxiety, Pain, Postpartum

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## 1. Introduction

Anxiety during pregnancy along with previous trauma and symptoms of depression among pregnant women occurs postpartum (1-2). Some studies revealed that mood and anxiety disorders are among the most common mental health problems in pregnant women that may increase the risk of maternal and infant mortality (3). The prevalence of mood disorders, anxiety, and depression in a study was reported between 15-10% (3). The pregnancy anxiety reported in other country and different studies was 22% in Sweden (4), 20.4% in Pakistan (5), and 59.5% in Brazil (6), respectively. The

mean of state anxiety during pregnancy in Iran was reported between  $34.76 \pm 3$  to  $44.99 \pm 9.84$  (7-8). Maternal anxiety in pregnancy in addition to its impacts on the mothers can affect the neurological development of infants (9) and even aggressive behavior of the female infants in the future (10). The study of Punamaki and colleagues also showed that anxiety is influential in declining the infant health (11). Various factors can have an effect on the anxiety and the fear of delivery. In a qualitative study, pregnancy anxiety factors were classified into four groups. A series of these factors are related to the fear of the labor process, for example fear of labor pain and prolongation of labor. The other

mentioned three are related to the time of labor, fear of premature labor, and unknown events during labor. Delivery complications such as bleeding, fear of death during labor, genital injuries, and depression are examples of the last category. The fourth category is concerned with the quality of hospital and its impact on maternal and infant health (12). In another study by Tzeng and co-workers pain and fatigue during labor were mentioned as the factors affecting the incidence of maternal anxiety (13). Various studies have used other methods to decrease anxiety (14-16).

One of the non-pharmacological ways to reduce anxiety is the psychological dimensions of the mother, which can possibly provide relief and reduce anxiety by controlling the pain and increasing rest and sleep (17). Prayer therapy, in another research, is said to be effective in diminishing postoperative pain. Due to the fact that pain is an unpleasant sensory and emotional condition that the patient experiences after medical surgery, in one study, the effect of prayer therapy, as spiritual activities, on the level of postoperative pain in patients was examined. The results showed that in Muslim patients, prayer and remembrance of God can be an alternative to non-pharmacological pain management to reduce the level of pain intensity after surgery (18). The use of religiosity therapy by vocalizations of the Holy Quran with and without translation was operative in decreasing the prevalence of preterm delivery and cesarean delivery; however, it had no effect on the infants' anthropometric indices (19).

The results of a study on 27 in Italy, 100 patients indicated that the percentage of recovery of the patients who believe in religion is higher (20). The findings of Mir Bagher Ajor Paz and Ranjbar on 80 pregnant women waiting for cesarean section showed that 4 minutes of listening to the Quran through headphones significantly reduced the anxiety in the experimental group compared to the control group (21). There is so much healing and peace in the Holy Quran that God says in the verse of Surah Al-Isra ' : "And what We have sent down from the Quran is healing and mercy for the believers." Also, "Those who believe, and whose hearts find satisfaction in the remembrance of Allah: for without doubt in the remembrance of Allah do hearts find satisfaction." Surah Ra'd, verse 28.

Daily worship, such as prayer, can diminish anxiety and stress by providing hope and emotional relief. Therefore, in recent decades, there has been an increase in the

number of studies conducted in the fields of religiosity, religion, and health. Given the trend toward religiosity and alternative medicine, the question posed in the present study is whether there is an association between the level of religious attitudes of mothers with anxiety. Therefore, we aimed to investigate the association between religiosity and jurisprudential information with anxiety of pregnant mothers during labor and postpartum pain should be investigated at selected hospitals of Shiraz University of Medical Sciences in 2016-2017.

## 2. Methods

This descriptive cross-sectional study was approved by the ethics committee of Shiraz University of Medical Sciences with the code of IR.SUMS.REC.1395.S16. According to the inclusion and exclusion criteria, 106 people were selected for the research units based on the multiple regression analysis for each variable of 10 samples in the form of convenience-purposive sampling. A sample size of 106 people was obtained and a total of 110 people were enrolled in the study. The study population included mothers who had given birth to their babies in Shoshtari and Zeinabiyeh hospitals affiliated to Shiraz University of Medical Sciences in 2016.

Inclusion criteria of this study were being a Muslim and a Shiite, being nulliparous with vaginal delivery, being 18 to 40 years old, having no severe chronic diseases, being willing to participate in the study, and having signed the written consent. Exclusion criteria were the lack of willingness to continue the study and fill out the questionnaires, occurrence of pregnancy, and delivery complications during the study, such as hypertension, bleeding.

According to the used methods herein, first the researcher in the delivery sector studied the records and interviews of the patients based on the selected criteria. Second, objectives of the study were explained to the mothers in order to encourage them to enter it and give their written consent, if desired. Religious attitude questionnaire was then used to measure the mothers' opinions and beliefs. Spielberger questionnaire was used to measure and also assess the mothers' anxiety level. The questionnaire consists of 40 questions, 20 of which measure the state anxiety and the other 20 measure the trait anxiety. Based on Likert scale, the scores for normal

anxiety are 0-19, mild anxiety: 20 to 40, moderate anxiety: 41 to 60, and severe anxiety: 61 to 80. Spielberger test, used by Aghamohammadi Kalkhoran and colleagues (2007) on 150 patients who had undergone surgical operation, reported a reliability of 97%. The present study is based on the reliability and validity of Aghamohammadi Kalkhoran and colleagues' study (22). Religious attitude was measured by a religious attitude questionnaire. This scale contains 25 questions and six domains related to the religious attitude. The maximum score on this scale was 125.

A score of 100 indicates a high religious attitude, a score of 50 or less shows a lower religious attitude, and those with a moderate religious attitude have a score of 50 to 100. The correlation coefficient of each item with the total score of the questionnaire was valid at the level of 0.001, while its reliability with two methods of Spearman Brown and Guttman was 0.948 and 0.933, respectively. Cronbach's alpha coefficient was 0.954, which can be used as a valid indicator to determine the religious attitude of patients and general population (23).

Both questionnaires were completed by the mothers while the researcher was present to provide necessary explanations in case of any questions. SPSS software version 16 was used to analyze the data, using descriptive statistics, Chi-square test, and ANOVA.

### 3. Results

A sample size of 106 people was obtained and total of 110 people were enrolled in the study for evaluation of religiosity and jurisprudential information with anxiety of pregnant mothers during labor and postpartum pain. The mean age of the study population was  $25.42 \pm 5.60$  years old. In terms of education, 20.9% (23 people) had an education of under diploma, 46.4% (51 people) had a diploma, and 32.7% (36 people) had a bachelor's degree or higher. 2.18% of mothers were employed and the rest were housewives. The level of religious attitude of the study population was as follows: in 6% of cases the religious attitude was low, in 65% the average, and in 28% it was high.

There was an association between the level of religiosity in mothers and their reduced level of anxiety. There was a significant difference between the mean state anxiety and religious attitude between the patients with moderate and high religious attitudes as  $16.52 \pm 7.74$  and  $10.12 \pm 5.40$ , respectively ( $P < 0.001$ ). The trait anxiety was estimated as  $16.32 \pm 9.58$  versus  $10.59 \pm 6.36$  ( $P < 0.001$ ) (Table 1). In mothers with a moderate religious attitude, 51.4% had moderate anxiety, 29.2% had mild anxiety, and the remainder had no anxiety ( $P < 0.001$ ) (Table 2).

**Table 1:** The association between mean and standard deviation of religious attitudes and anxiety in mothers

	**Religious score	N	M(SD)	Minimum	Maximum	*Sig
State anxiety	<=50	7	21.42 (9.18)	8.50	34.00	<0.001
	51-99	72	16.52(7.74 )	3.50	38.00	
	>=100	31	10.12(5.41)	3.50	28.00	
	Total	110	15.03(7.92)	3.50	38.00	
Treat anxiety	<=50	7	21.71(8.01)	8.00	31.00	<0.001
	51-99	72	16.32(9.58)	2.00	38.50	
	>=100	31	10.56(6.37)	2.50	27.00	
	Total	110	15.04(9.17)	2.00	38.50	
Total score of anxiety	<=50	7	43.14(13.300)	26.00	60.00	<0.001
	51-99	72	32.71(13.52)	6.00	58.00	
	>=100	31	20.69(10.13)	8.00	44.50	
	Total	110	29.99(14.06)	6.00	60.00	

\*ANOVA, \*\*<=50 equal low, 51-99 moderate level, >=100 equal high level of score

**Table 2:** The association between religious attitudes and anxiety in mothers

**Religious level	Total anxiety			*Total
	Normal (%N)	Mild (%N)	Moderate (%N)	
Low (<=50)	(0)0	2(28.6)	5(71.4)	7(100)
Moderate(51-99)	14(19.4)	37(51.4)	21(29.2)	72(100)
High(>=100)	19(61.3)	11(35.5)	1(3.2)	31(100)
<b>Total</b>	<b>33(30)</b>	<b>50(45.5)</b>	<b>27(24.5)</b>	<b>110(100)</b>

Fisher's Exact Test; value=27.255, P<0.001\*  
 equals low, 51-99 moderate level, >=100 equals high level of score 50=>\*\*\*\*

**Table 3:** The association between religious attitudes and state anxiety in mothers

**Religious level	state anxiety			*Total
	Normal (%N)	Mild (%N)	Moderate (%N)	
Low (<=50)	1(14.3)	5(71.4)	1(14.3)	7(100)
Moderate(51-99)	3(4.3)	36(50)	33(45.7)	72(100)
High(>=100)	15(48.4)	13(41.9)	3(9.7)	31(100)
<b>Total</b>	<b>19(17.3)</b>	<b>54(49.1)</b>	<b>37(33.6)</b>	<b>110(100)</b>

Fisher's Exact Test; value=32.517, P<0.001\*

**Table 4:** The association between religious attitudes and treat anxiety in mothers

**Religious level	treat anxiety			*Total
	Normal (%N)	Mild (%N)	Moderate (%N)	
Low (<=50)	3(42.5)	3(42.5)	1(14.3)	7(100)
Moderate(51-99)	30(41.7)	34(42.7)	8(11.1)	72(100)
High(>=100)	19(61.3)	11(35.5)	1(3.2)	31(100)
<b>Total</b>	<b>52(47.3)</b>	<b>48(43.6)</b>	<b>10(9.1)</b>	<b>110(100)</b>

Fisher's Exact Test; value =4.404, P=0.3\*

The highest level of situational anxiety was moderate (54=49.1%) and had a statistically significant association with the level of religious attitude (P<0.001) (Table 3). The highest level of personality anxiety was normal (52=47.3%), then moderate (48=43.6%) and had no statistically significant association with the level of religious attitude (P=0.327) (Table 4).

**4. Discussion**

In the study population, 65.5% had moderate religious attitude; the highest frequency of 45.4% was in women with moderate anxiety and there was no severe anxiety. Moreover, there was an association between the level of religiosity in mothers and their reduced level of anxiety in labor. In other studies conducted in Iran, a relatively high level of maternal anxiety was reported (24), a part of which may be due to the process of labor, delivery, entrance to a new environment, birth of a new infant, the lack of knowledge about labor, delivery, and infancy cares. Herein, there was a substantial difference between religious attitudes and anxiety. In the study of Mann and colleagues on the examination of the relationship between religion, spirituality, and anxiety in pregnant women, from September 2005 to March 2006, anxiety and depression in South America and their relationship with religious attitudes was evaluated in a cross-sectional

study of 344 pregnant women, where 23 women had moderate to severe anxiety. Religiosity or spirituality was significantly associated with lower chances of having the symptoms of moderate to severe anxiety in general. The author concluded that religiosity and spirituality were associated with reduced anxiety in pregnant women (25). In another study, the positive effects of religiosity and prayer therapy on reduced anxiety, increased calmness, concentration and generally increased religiosity and physical health of patients were reported (26). Today, many physicians consider religiosity or compassionate care as important sources of physical health and improvement in people; therefore, they believe that it is necessary to consider the individuals' cultural and religiosity issues in the treatment process (27). One of the most effective associations that humans may have with the external environment is a relationship with the Lord of the World. Reading the holy Quran, praying, and reading holy citations, consciously and in deep heart, connect the human's heart to the infinite creator. In the study of Jabbari and colleagues, 168 pregnant women were randomly divided into three groups. The first group broadcast the Holy Quran with translation, the second group broadcast the Holy Quran without translation, and the third group was the control group. After the intervention, perceived stress, state and trait anxiety, and depression were significantly lower in the first and

second groups than in the control group (28). Feelings of belonging to a high source, hope for God's help in stressful life situations, and religiosity support are the sources by which religious people suffer less harm in the face of adversity and enjoy higher mental health (13).

However, based on the results of another study, despite the lower prevalence of preterm delivery and cesarean section in the intervention group (Holy Quran with translation and Holy Quran without translation), no significant influence was observed between the effects of pregnancy, which may have been due to the small sample size (19). People with religious beliefs or spirituality will have less stress response (cortisol hormone production) to stimuli. Stimulation, blood pressure, and nervous system arousal will be reduced. Low levels of cortisol in the body increase the body's defense ability, coping power and memory activity lessens the sense of pain. However, high and prolonged levels of cortisol in the bloodstream (which comes in chronic stress) have a number of destructive effects (29).

Another study found that maternal anxiety led to increased cortisol and that its scores and maternal cortisol were inversely related to birth weight. This finding demonstrated the importance of lowering the maternal anxiety, severe anxiety in particular, throughout pregnancy. (30)

It has also been reported that the association between religiosity or spirituality health and cortisol has not been confirmed (31-33). Thus, the promotion of spiritual inspiration and emotional discharge decreases anxiety for the reason that people feel a strong connection to God who always helps His servants, and it makes religious people more peaceful (7, 34-35).

Studies revealed that the influence of religious or spiritual health and a positive attitude, in addition to the reduction of psychological problems, result in reduced physical diseases, and improved quality of life and physical skills to cope with the disease (36). Other similar studies indicated that the maternal mental relaxation by sound therapy of Quran lessened the labor pain and raised convenience with short-term delivery (37). Therefore, people in Iran are turning to religion more due to cultural conditions in order to cope with crises. Researchers believe that religiosity or spirituality is expressed and formed based on accepted beliefs and acts in any particular culture. Quranic teachings call people to be patient and practice rationally in the face of social contradictions and problems because if one does

not show hasty and unaccounted reactions, one will consequently suffer less stress (20), As recommended in verse 1 of Surah Al-Baqarah;

“And take recourse to patience and prayer, and it is indeed hard except for the humble.”

One of the limitations was the threshold of pain and anxiety, which was different in mothers during labor pain and this problem has not been controlled by the researcher.

## 5. Conclusion

The religious attitude in mothers was effective in reducing the level of anxiety in labor and decreased the postpartum physical and perineal pains. Paying attention to the religiosity dimension of human existence and planning to improve them is crucial.

Therefore, it is suggested that the use of prayer therapy and religious sounds should be promoted as a strategy to deal with the fear of labor and delivery to reduce mental and physical changes before and after the birth with more training of educational health care personnel in obstetric care centers. This change in maternity care policies to promote a positive attitude towards vaginal delivery will have positive effects.

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