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# Investigation of Relationship Between Maternal Religious Attitude and Mental Health of Infant at Birth

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## Abstract

**Background:** Studies have shown that spiritual beliefs in pregnancy can affect health habits and behaviors. Confidence in the power of God leads to increased patience and a sense of security, inner peace, and calm.
**Objectives:** We aimed to investigate the correlation between religious attitude and mental health of mothers and infants in hospitals of Shiraz University of Medical Sciences in 2016.
**Methods:** The study was performed on 110 mothers in labor in 2016. Convenience and purposive sampling methods were used to conduct this study after obtaining the informed consent of participants. Data collection tools consisted of demographic information and fertility characteristics, religious-attitude questionnaire, and infant mental health checklist.
**Results:** The average maternal age was 26.42 $\pm$ 5.6 in the range of 18 - 40 years. Maternal education was below diploma in 20.9% and bachelor's degrees or higher 32.7%. The body mass index was above 25. Moreover, 65.5% (n = 72) had moderate religious attitudes. There was a statistically significant relationship between the religious attitude and mental health of the infant (P = 0.018). However, there was no significant relationship between the mental health of infant and other variables such as maternal age (r = -0.57, P = 0.5), and body mass index (r = 0.0141, P = 0.14).
**Conclusions:** There was a relationship between the maternal religious attitude in pregnancy and the mental health of the infant. Therefore, paying attention to matters of faith and the effectiveness of spiritual care in pregnancy is recommended for promoting maternal and infant health.

*Keywords:* Attitude, Mental Health, Maternal, Religious Infant, Birth

## 1. Background

Infant mental health is one of the priorities of public health worldwide (1). Infants' exposure to stress is also a noteworthy risk factor that may have long-term consequences for their future and the future of society and family (2, 3). Various factors can affect the mental health of infants including the period of fetal growth that is considered as one of the most important factors. Mothers who are psychologically distressed and depressed will not be able to have an appropriate emotional relationship with the fetus. Laxton-Kane et al. study showed that low levels of prenatal attachment could lead to damage to the fetus (4). Mother's constant anxiety during pregnancy can cause the mother's body to release hormones that create severe stress, which, in turn, leads to fetal unrest. A depressed and worried child is born to a depressed and worried mother. These mothers are not sensitive to their infants' signals (5). According to Franc et al. study, this emotional bond is formed from the time of pregnancy and is vital for the infant's mental development (6). Independent prospective studies have shown a relationship between anxiety, stress, and cognitive behavior of the mother and behavioral and emotional problems in the child (7). Other influential factors may include mother's childbearing ability and the degree of mother's awareness of the development and growth of the fetus and infant (8), besides emotional support by the mother (9). Today, the spirituality and psychological well-being of individuals are organized in psychologically-based methods that are of great importance in the treatment of diseases. The research introduced an integrated model of medicine, spirituality, and religion as a model of complete care that can be effective in improving the health of individuals (10-13). A review study (2000) showed that 350 of 1200 studies conducted in the field of health and religious variables were related to body health and 850 were related to mental health. The results generally indicated a positive relationship between spirituality and religious beliefs and the health level (14). Therefore, the process of pregnancy and childbirth is considered a special and unique event in the life of many human beings (15).

## 2. Objectives

Given the tendency toward spirituality and alternative medicine, the question arises whether the level of spirituality and religious attitude of mothers can be related to the mental health of the infant. Therefore, the current study assessed the relationship between the maternal religious attitude and the mental health of infants in the selected hospitals of the Shiraz University of Medical Sciences in 2016.

## 3. Methods

This descriptive-analytical study was conducted on mothers who were in labor in 2016. Sample size with considering parameter r $\alpha \leq 0.05$ and power 80% and also the results of similar studied (11) was estimated 106 however a total of 110 individual were enrolled in this study.

$$n = \frac{\left(Z_{1-\frac{\alpha}{2}} + Z_{1-\beta}\right)^2 \left(\delta_1^2 + \delta_2^2\right)}{\left(\mu_1 - \mu_2\right)^2} \quad (1)$$

The sample was selected from hospitals affiliated to the Shiraz University of Medical Sciences, including Hafez Hospital, Hazrat Zeinab Hospital, and Shooshtari Hospital. In this study, a convenience-purposive sampling method was used based on the study inclusion criteria and the informed consent of the participants was obtained. The inclusion criteria included nulliparous women with normal vaginal delivery, aged between 18 and 40 years, without severe chronic diseases, and willing to participate in the study by completing written consent forms. The exclusion criteria were the lack of desire to continue the study and complete the questionnaires and the presence of pregnancy and delivery complications during the study such as hypertension, bleeding, etc.

The data collection tool was a questionnaire with three sections of demographic information and reproductive characteristics, religious attitude, and mental health. The checklist for the assessment of the mental health of infants at birth was used based on the mental health indicators of the infant in the Williams books of Mental Health and Growth Psychology and Pregnancy and Childbirth. Since the mental health of infants at birth cannot be separated from their physical health, it is attempted to measure the main indicators of mental health with some questions (16). This checklist contained nine questions. Each question was scored from 0 to 2 and the overall score of the checklist was 0 to 18. Fetal mental health was not categorized. The higher the score, the better the health status of the infant. It has no cutoff point. Cronbach's Alpha for this checklist was obtained 0.89. The content validity of 0.93 was obtained for this checklist (calculated by scoring and evaluating six pediatricians). According to the validity and reliability of the results from a study conducted by Shayeghian et al., we used this questionnaire in our study (17). The religiosity was assessed by the RAS-R religious attitude questionnaire. This scale consists of 25 questions in six areas related to religious attitudes, including worship (praying), ethics and values, the effect of religion on life and behavior (praying, fasting), community discussions, worldview, beliefs, science and religion. A Likert-type scale was used including totally agree, somewhat agree, neither agree nor disagree, somewhat disagree, and totally disagree. The maximum score of this scale is 125. Religious attitude scores were divided into two classes, low < 50, moderate = 51 - 99, and high $\geq$ 100. The reliability of the questionnaire was obtained as 0.948 and 0.933 using Spearman-Brown and Guttman methods, respectively. Its Cronbach's alpha coefficient was computed as 0.954. This questionnaire was considered as the basis of the current study (18).

### 3.1. Data Analysis

Data were analyzed using SPSS statistical software (version 16.0) by descriptive statistics, chi-squared test, and Pearson correlation coefficient.

## 4. Results

The mean age of mothers was 26.42 $\pm$ 5.6 ranging from 18 to 40 years; 56.4% of them were aged 20 - 29 years and 27.3% were aged 30 years or older. Maternal education was below the high school diploma in 20.9% and bachelor degrees or higher in 32.7%. Body mass index of greater than 25 was estimated in 68.2% of mothers. The religious attitude of mothers was low in 6.4%, moderate in 65.5% (72 individuals), and high in 28.2%. The mean of religious attitude of the research population was 86.50 $\pm$ 19.38 which is also the average level. The mental health was not categorized but the mean mental health of the infants was 16.68 $\pm$ 1.35. Based on the ANOVA test, there was a significant relationship between religious attitude and mental health of the infant (P = 0.018) (Table 1). Besides, according to the Pearson correlation coefficient, a significant linear relationship was found between the two variables of mental health and religious attitude (r = 0.268, P = 0.005). But there was no significant relationship between the mental health of the infant and other variables such as maternal age (r = -0.57, P = 0.5) and BMI (R = 0.0141, P = 0.14) (Tables 2 - 3).

## 5. Discussion

Religion or spirituality of patients has been emphasized and considered to be useful in medical counseling.

**Table 1.** Relationship Between Religious Attitude and Fetal Mental Health[a]

| Mental Health | Religious Score | | |
|---|---|---|---|
| | N | Mean | Std. Deviation |
| Low ($\leq$ 50) | 7 | 16.57 | 1.618 |
| Moderate (51 - 99) | 72 | 16.44 | 1.42 |
| High ($\geq$ 100) | 31 | 17.25 | .929 |
| Total | 110 | 16.68 | 1.35 |

[a]P value: 0.018 ANOVA

**Table 2.** Correlations Between Religious Attitude and Fetal Mental Health

| Mental Health | r | P |
|---|---|---|
| Religious attitude score | 0.268 | 0.005[a] |

[a]Pearson correlation

However, this issue is less observed by the medical team (13, 15). Such issues are facilitated by prior training and increased physician religiosity and spirituality. Insufficient time and training were the most frequently reported barriers.

The present study showed a statistical relationship between the mental health of the infant and the maternal religious attitude. Previous studies showed that maternal mental health, depression, and anxiety symptoms have potential impacts on the mood of the infant (19-21). There are even reports of the relationship between severe maternal stress and neonatal brain abnormalities (3). The religious-spiritual attitude is an important dimension and studies showed that it may be effective in providing maternal comfort during pregnancy, reducing the maternal level of anxiety, and promoting maternal mental health. In a study, theoretical and practical religious culture training (praying, fasting) was effective in reducing depression and led to a decrease in conditions such as anxiety, sadness, despair, insomnia, and anorexia (22). Worship, such as praying, which is a kind of relaxation, creates a sense of goodness in the person (23). Also, this method of calming down for women with Islamic faith is recommended by the Holy Qur'an in al-Anbab Surah, verse 45. Moreover, the reading of Yas Surah is recommended for a safe delivery (24). Even in a study conducted in areas with strong religious attitudes and beliefs, it was shown that women and midwives prayed for a safe child during labor (25). Some authors believe that spirituality is important in infant birth. Evidence suggests that humans have physical, mental, social, and spiritual characteristics but spirituality is not perceived appropriately as an important aspect of human experience.

Pregnancy can be a good time to contemplate the miraculous nature of spiritual experience. Some believe that no event more than spirituality is linked to our humanity since birth. However, today, most communities are science-oriented. Pregnancy and childbirth are more distant from their historical and cultural contexts (25). Najman et al. presented one of the first reports of the relationship between religiosity and the health of mothers and infants. In this study, members of the studied religious sects significantly showed high-risk behaviors during pregnancy and their infants were significantly more likely to be born with more weight at higher gestational ages of their mothers (26). In a qualitative study in pregnant women, mothers suggested that spirituality was a way of experiencing a sense of balance (27). It seems that spirituality helps mothers' guidance and support. For example, in a qualitative study, one woman said, "Spirituality keeps me calm, raises my soul and allows me to think that there is a lighter day for me" (28). Also, Koenig (2012) found that religious patients admitted to the hospital had a serious tendency to cope with illness and receive treatment. Spirituality helped them adapt to the stress of illness and improve their mental status; it was also helpful in finding meaning in life and increasing their sense of belonging. According to Koenig's findings, religion has a positive impact on the spiritual, emotional, and psychological well-being of individuals (29). Therefore, since the mother's mental health is closely related to the neonate's mental health, her attitudes and beliefs are one of the most effective factors in the compliance of the mother with the special conditions of labor and childbirth. It is necessary that the medical team and midwives have an awareness of various cultural-religious issues of their community because if there is a conflict between the mother's knowledge and the religious culture of the mother, this contradiction in the opinion of the midwife may affect her midwifery activities in the management of pain during labor and delivery and the health of the infant (30). It should be noted that some studies showed that religious beliefs seem to be less considered, especially in the event of illness, suffering, or death (or special conditions of labor) (31-34). One of the limitations of this study may be related to completion of the religious attitude questionnaire; despite complete specifications individuals' information were not written and the questionnaire was coded, may not be completed correctly (due to the religious culture of the community). The other limitation was that the forms were completed after delivery in the postpartum sector, which might have been affected by the labor and delivery process.

### *5.1. Conclusions*

The present study showed a relationship between maternal religious attitudes during pregnancy and the men-

**Table 3.** Relationship Between Fetal Mental Health and Demographic Variables[a]

| Variables | Fetal Mental Health (Low, Moderate) | Fetal Mental Health (High) | Total | P Value |
|---|---|---|---|---|
| **Age** | | | | Chi-square test value: 0.996, df = 2, P = 0.908 |
| ≤ 20 | 5 (27.7) | 13 (72.3) | 18 (100) | |
| 21 - 29 | 11 (17.7) | 51 (82.3) | 62 (100) | |
| ≥ 30 | 7 (23.3) | 23 (76.7) | 30 (100) | |
| Total | 23 (21) | 87 (79) | 110 (100) | |
| **Education** | | | | Fisher's exact test value: 1.601, df = 1, P = 0.655 |
| Primary school | 5 (21.7) | 18 (78.3) | 23 (100) | |
| Secondary school | 13 (25.5) | 38 (74.5) | 51 (100) | |
| Bsc | 5 (15) | 28 (85) | 33 (100) | |
| Msc | 0 (0) | 3 (100) | 3 (100) | |
| Total | 23 (21) | 87 (79) | 110 (100) | |
| **BMI** | | | | Chi-square tests value: 0.026, df = 1, P = 0.873 |
| < 25 | 7 (20) | 28 (80) | 35 (100) | |
| ≥ 25 | 16 (21.3) | 59 (78.7) | 75 (100) | |
| Total | 23 (21) | 87 (79) | 110 (100) | |

[a]Values are expressed as No. (%).

tal health of the infant after birth. Since belief in God and supreme power can reduce stress and promote physical and mental health, it is suggested that spiritual care be provided for pregnant women during pregnancy along with medical interventions. Because pregnancy is an extremely important stage in the health of the mother, fetus, and infant, many spirituality-based habits and health behaviors in this stage of life will have important impacts on infants' health and behaviors in adulthood.

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## Footnotes

**Authors' Contribution:** Fatemeh Ghodrati: Study design, literature search, manuscript preparation, review, and corresponding. Sara Dokuhaki: Study design, data acquisition, and, literature search.

**Conflict of Interests:** No conflict of interest is reported.

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**Patient Consent:** The written informed consent was obtained from all the participants

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