

## The Effect of Pregnancy-related Religious Training on Religious Attitudes among Pregnant Women

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ARTICLE INFO	ABSTRACT
<p><i>Article type:</i> Original article</p>	<p><b>Background &amp; aim:</b> Many researchers believe that religious doctrines have persistent effects on the mental and physical health and other aspects of human life. This study aimed to investigate the effect of pregnancy-related religious training on religious attitudes among pregnant women.</p> <p><b>Methods:</b> This interventional study was conducted on 84 pregnant women with low and medium levels of religious attitudes in 2013. The study population was randomly divided into two groups of intervention (n=42) and control (n=42). The intervention group received religious education within the gestational weeks of 20-28 in six sessions. The control group received routine hospital trainings. The two groups filled out the religious attitude questionnaires before, immediately after, and two months following the intervention. The data were analyzed with SPSS, version 16, using t-test.</p> <p><b>Results:</b> The results of the independence t-test revealed no significant difference between the two groups regarding the level of religious attitudes before the intervention (P=0.936). However, there was a significant difference between the two groups in this regard immediately after the intervention (P=0.001) and two months post-intervention (P=0.001). The level of religious attitudes increased from weak and moderate to a high rate following the intervention.</p> <p><b>Conclusion:</b> Given the positive impact of religious education on religious beliefs and attitudes, it is recommended to use this potential in prenatal care planning.</p>
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### Introduction

Anxiety is a mental state, which is the result of dealing with a mental or physical stressor (1). Pregnancy and childbirth are new mental and physical experiences, which frequently expose the mothers to anxiety. This state is dangerous for both mother and fetus and increases the post-delivery health risks (2, 3). The prenatal period involves physiological changes and adjustments, as well as psychological adaptation requiring special attention (4).

Maternal anxiety is considered a very important issue during pregnancy, which

requires the direction of sufficient attention, recognition of the associated risk factors and signs, as well as implementation of the interventions targeted toward the reduction of this state. These interventions will have an effective role in the mental and physical health of the fetus and mother (5). In a study conducted in 2006, it was demonstrated that autonomic nervous system stimulation caused by anxiety increased the production of hormones, such as noradrenaline, which in turn led to increased uterine vascular

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resistance and elevated arterial pressure, decreased uterine blood flow, and finally reduced oxygen supply to the fetus. High levels of noradrenaline during pregnancy are negatively correlated with fetal head and abdominal circumference (6).

There are various strategies to reduce anxiety. Research shows that anxiety-reducing interventions in pregnant women, such as yoga, progressive muscle relaxation, and massage, can help improve pregnancy outcomes (5). The spiritual impact of religious beliefs can be inclusive and effective on all physical and mental aspects of life (7). Accordingly, mental health has been shown to be positively associated with religion. The effect of religious interventions on the improvement of psychological pains, such as the therapeutic effect of prayer on controlling psychological disorders, has been raised since 1950s (8).

Moreover, the increasing significance of this impact has been shown in the studies performed in the subsequent years. Due to the relative failure of professional mental health specialists in interventional techniques and regarding the various research indicating the positive effect of religion on mental health, the tendency toward religion has increased since 1990s. In a cross-cultural study conducted on 28,085 subjects in 19 Western countries, the higher adherence to religion was reported to result in lower tendency toward suicide (9). In general, religion has positive effects on individuals' mental health (10).

A meta-analysis conducted on religious studies and mental health revealed positive, negative, and no relationships between religion and mental health in 47%, 23%, and 30% of the cases (11). The question arisen by the researchers is whether asking about client's religious attitudes must be part of the consultation and treatment process or not. A number of studies have answered this question positively (12-16). In this regard, in a study with client-centered approach, it was even stated that focus on the culture, values, beliefs, and behaviors of clients should be considered as part of the medical health system requirements (12).

According to Candler et al. (17), when a

religious person considers God as the judge, he/she will have fewer physical and mental disorders and antisocial behaviors. Today, the religious beliefs, such as saying prayers, thanksgiving in church, and using the special foods, have been shown to affect the women during pregnancy, labor, and delivery (18). According to a number of studies, faith healing is one of the organized methods, which is based on psychological strategies. This method exerts influence on the disease treatment, pain reduction, as well as anxiety, depression, and stress mitigation (19).

Several studies have indicated that religious activities, such as worship attendance, may play a role in reducing depression (20, 21). Nevertheless, in a study entitled "Relationship between religion and mental disorders in Korean population", no relationship was revealed between spirituality, religion, and previous mental disorders. Moreover, in the mentioned study, there was no significant relationship between anxiety disorder and spiritual values (22). Furthermore, in another study, the members of some religious groups were reported to be at high risk of psychiatric disorders (23).

Training is a conscious effort, which results in learning. Client training has been accepted as part of the activities of the medical health system. Health education is essential and effective in raising awareness, changing attitudes, and adopting healthcare behaviors (24). Enhanced awareness and attitudes achieved by training cause changes in health behaviors. The frequency and continuity of educational courses would affect the sustainability of health behaviors. One of these trainings is the education of religiosity during pregnancy and prenatal care based on religious doctrines.

These questions may arise that whether training usually leads to learning, or whether training of religious issues is different from other types of trainings. According to the researchers, training of religious issues has a major difference with other health issues trainings. Another question that may bring about in this regard is whether we are allowed to freely decide on our religious beliefs or if our religion is determined by our parents, when we

are born in a religious society.

In a similar study, it was indicated that an individual accepts the religious recommendations freely and may or may not perform them. Some researchers believe that spirituality is associated with humanity since birth (25). There are many mothers praying for a safe delivery and healthy child during the recent years based on their nature and regardless of Religious affiliation (26). Given the importance of women's beliefs and attitudes during pregnancy and lack of studies in this field, the present study aimed to investigate the effect of pregnancy-related religious training on religious attitudes among the pregnant women attending the prenatal clinics of Tehran University of Medical Sciences, Tehran, Iran.

## Materials and Methods

This interventional study was conducted on women with 20-28 weeks of gestation referring to the clinics affiliated to Tehran University of Medical Sciences in 2013. The study population included 220 females using purposive and convenience sampling methods. The participants were assigned into two groups of intervention and control. To this end, based on the table of random numbers, the first subject was placed in the intervention group, and the next one was allocated into the control group. This process was continued until the completion of the two groups.

Subsequently, 42 subjects, who obtained low and moderate levels of religious attitude in the religious attitude questionnaire, were selected for each group. Therefore, the cases with a high level of religious attitudes were excluded from the study. The sample size (for before-after study) was determined using the sample size formula and performing a pilot study ( $\alpha=0.05$ ,  $\beta=0.2$ ,  $S_1=9.12$ ,  $S_2=11.3$ ,  $\mu_1=84.2$ ,  $\mu_2=86.6$ , and  $d_2=4.3$ ).

The inclusion criteria were: 1) nulliparity, 2) age range of 18-45 years, 3) lack of chronic diseases, 4) low-risk pregnancy, 5) ability to participate in educational classes, and 6) written informed consent. On the other hand, the exclusion criteria included the lack of willingness to continue cooperating in the study and absence in training classes for more

than two sessions. Data collection tools included demographic form and Religion Attitude Scale-Review (RAS-R). The RAS-R consists of 25 items and 6 fields related to religious attitude (13).

In this instrument, the options that are considered positive attitude receive scores of 4 and 5, those regarded negative attitudes are given scores of 1 and 2, and the moderate attitudes are allocated the score of 3. The maximum score of this scale is 125. The scores of  $> 100$ , 50-100, and  $< 50$  represent high, moderate, and low religious attitudes, respectively (27). The reliability and validity of this research tool have been confirmed by Ebrahimi, reporting Cronbach's alpha coefficient of 0.954.

The training of religious doctrines was initiated at 20-28 weeks of gestation in the intervention group. The classes were planned in six sessions, one session a week, lasting for 60-90 min. The first three weeks of training was implemented by the researcher, and the next three weeks were held by a visiting professor (a religious expert). After classes, the content of the religious training was practiced in form of role playing and group discussion.

The general topics of the sessions included recommendations about prenatal and postnatal periods in Islamic culture (e.g., religious advice and dietary guidelines), importance of breastfeeding in Holy Quran, mother-baby skin-to-skin contact, right of child to have colostrum feeding, rewards of the promotion of breastfeeding, individual morality (e.g., trust, sincerity, gratitude, and thanksgiving), importance of maternal characteristics (e.g., good temper, friendliness, corporate ethics, good manners, and sympathizing with others), importance of God's love, and fear of God's discontent. The last session covered such issues as commitment to religious duties, as well as devotion (e.g., individual worship, prayer, fasting, and remembrance). The control group received routine hospital trainings by the personnel.

## Statistical analysis

The mean religious attitude of the subjects was compared before, immediately after, and two months following the intervention using repeated

measures ANOVA. P-value less than 0.05 was considered statistically significant. The investigation of the changes in religious attitudes between the two study groups and among the three intervention stages was accomplished using a repeated measures test. The results of the Mauchly's test indicated the unfulfillment of the assumption of sphericity, which is the default of a repetitive measure design test. Therefore, Huynh-Feldt was used to study the statistics for within and between-subject's effects.

To evaluate the effect of training, the independence t-test was used to compare the mean attitude scores of the two groups before, immediately after, and two months following the intervention. A relationship was reported significant based on the p-value and Bonferroni correction. The data were analyzed using SPSS, version 16.

### **Ethical considerations**

This project was approved by the Ethics Committee of Shiraz University of Medical Sciences, Shiraz, Iran (3 Feb, 2013; No: t-916431). Written informed consent was obtained from all the subjects. Furthermore, they were informed about the possibility to leave the project at any stage of the study.

### **Results**

According to the results, 45.5% and 51.4% of the subjects in the intervention and control groups were within the age range of 21-25 years, respectively. The mean ages in the intervention and control groups were  $25.51 \pm 4.08$  and  $23.45 \pm 3.30$ , respectively. According to the results of the independent t-test, there was no statistically significant difference between the two groups in terms of

gestational age ( $t=2.51$ ,  $df: 50$ ,  $P=0.1$ ). Therefore, the two groups were comparable in this regard.

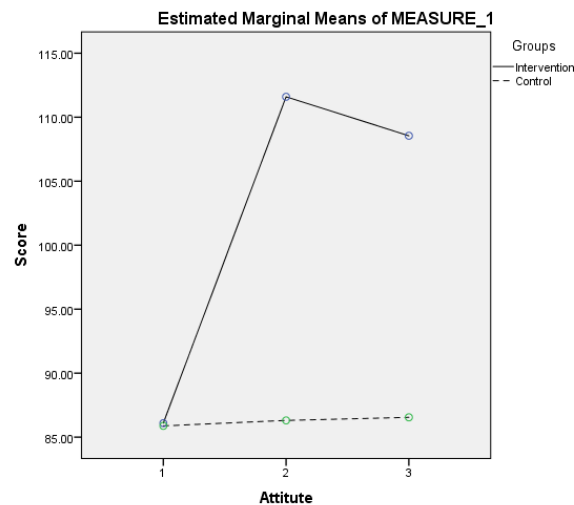
The results of the repeated measures ANOVA revealed an interaction effect between time and groups ( $P<0.001$ ). Therefore, the intergroup and intragroup comparisons were performed using the t-test and repeated measures ANOVA, respectively. The Greenhouse-Geisser was run for the two groups due to the violation of sphericity assumption ( $P<0.001$ ). This test demonstrated a significant difference among the three stages of the intervention in terms of the attitude score.

The post hoc Bonferroni test indicated a significant difference in the attitude scores of the intervention group at the baseline and after the intervention ( $P<0.001$ ), at the baseline and two months' post-intervention ( $P<0.001$ ), and immediately after and two months following the intervention ( $P=0.02$ ). However, the control group showed no significant difference in the attitude scores at the three intervention stages.

Based on the results of the intergroup analysis, the two study groups had no significant difference in terms of the religious attitude score at the baseline ( $P=0.936$ ). Nonetheless, there was a significant difference between the control and intervention groups in this regard immediately after and two months following the intervention ( $P<0.001$ ) (Table 1, Figure 1). The level of religious attitudes also increased from weak and moderate to high rate after the intervention. In this regard, this level reached from 11.9% to 88.1% and 21.4% to 78.6% immediately after and two months following the intervention (Table 2).

**Table 1.** Inter- and intra-group comparison of religious attitude scores in the nulliparous pregnant women before, immediately after, and two months following the intervention in the intervention and control groups

Attitude	Groups		T statistic	P-value (inter group)	
	Intervention	Control			
Time of study	Baseline	$86.0 \pm 13.9$	$85.8 \pm 10.2$	0.08	0.936
	After intervention	$111.5 \pm 9.7$	$86.3 \pm 9.8$	11.7	<0.001
	Two month after	$108.5 \pm 11.6$	$56.5 \pm 9.8$	9.3	<0.001
F statistic	89.28	1.24			
P-value (intragroup)	<0.001	0.216			



**Figure 1.** Comparison of religious attitude scores in nulliparous women before, immediately after, and two months following the intervention in the control group

**Table 2.** Comparison of the levels of religious attitudes before, immediately after, and two months following the intervention in the intervention and control groups

Levels of religious attitudes		Low religious attitudes ( $\leq 50$ )		Moderate religious attitude (51-100)		High religious attitudes ( $101 \leq$ )		statistical test
		N	%	N	%	N	%	
Before intervention	Control group	0	0	42	100	0	0	Fisher's exacted value: 1.918 Df:1 P=0.49
	Intervention group	1	2.4	40	95.2	1	2.4	
Immediately after intervention	Control group	0	0	42	100	0	0	Chi-square value: 66.13 Df:1 P $\leq$ 0.001
	Intervention group	0	0	5	11.9	37	88.1	
Two months after intervention	Control group	0	0	42	100	0	0	Chi-square value: 54.35 Df:1 P $\leq$ 0.001
	Intervention group	0	0	9	21.4	33	78.6	

## Discussion

As the findings indicated, the training of religious doctrines led to the enhancement of religious attitude level in the subjects of the intervention group who had low and moderate levels of religious attitudes. This effect continued up to two months after the training. Likewise, in a study conducted by Mann et al. (2007), religious belief was reported to have a direct relationship with spiritual characteristics, participation in religious activities, decrease in prenatal anxiety symptoms, and postpartum depression (28).

The results of a similar study performed by

Saleh Sadeghpour et al. entitled "The effect of training Quranic doctrines on improving social acceptance" indicated that training Quranic doctrines and workshops had a positive effect on social acceptance (29). Bartlett states that increased awareness and attitudes achieved by training cause changes in health behaviors. They also argued that the frequency and continuity of educational courses will help the sustainability of health behaviors (30).

The incorporation of religious instructions related to prenatal care into educational planning would result in the creation of a

positive incentive in people. Therefore, religious doctrines should be considered as the key components of training by health care specialists to enable them to understand the clients' religious needs and provide comprehensive care. According to Aziato et al., the women should be managed based on their own religious beliefs and practices during the prenatal and intrapartum periods (31).

Sable and Libbus assert that training prenatal care, especially in high-risk populations and subgroups of pregnant women, reduces the risks of labor and subsequent problems (32). Given the increased levels of stress and anxiety caused by pregnancy complications in high-risk mothers, it is essential to reduce anxiety and promote proper care functioning to decrease maternal problems and side effects. The use of praise and prayer has been frequently recommended in traditional and Islamic medicine. In addition, relaxation is the most common technique in complementary and alternative medicine (33).

Some studies have shown that religious instructions create a positive incentive in people through which not only people do not resist against health measures, but also they are encouraged to modify their unhealthy behavior (34). Kakas believes that religion is one of the very important factors affecting the people's beliefs and health behaviors. He states that the health professionals must not only be aware of medical issues, but also be familiar with spiritual principles to be able to provide health care timely in line with such guidelines (35).

Although 91% of the physicians feel that their patients' beliefs can affect their health conditions, 75% of them believe that praise and prayer can promote healing and treatment. Also, 73% of the patients tend to receive signs of spiritual matters during the delivery of health care by their physicians. However, most of the physicians do not know how to talk about religious beliefs and spirituality with their patients or are doubtful about the extent they are allowed to discuss this issue (36).

In a study conducted in the USA, it was revealed that only 20% of the physicians were trained about the way and extent of considering religion and spirituality during

the delivery of health care services (36). In the last 20 years, there has been no research reporting the negative impact of religion, specifically among the pregnant women. However, some researchers have rejected the hypothesis of the relationship between mental health and religiosity (37). In this respect, in a study performed by Kobasa, religious performance (i.e., church attendance) was not associated with mental health and well-being (38). In some studies, religious attitude was reported to have even a reverse relationship with mental health (39).

These discrepancies may be due to the differences in the types of religious orientations, age of the subjects, conditions (e.g., illness and pregnancy), and research instruments. As a result, since spirituality is an important component and integral part of care in the nursing and midwifery practice (40, 41) for both clients and their families (42, 43), it is necessary for the medical team to consider the clients' spiritual health and attitude, along with their other educational needs.

The role of religion in the clients' decision-making has also been highlighted in other studies. According to several studies, the health care providers should be equipped with some knowledge regarding the patients' religious beliefs in order to provide better care services (13-16). However, several studies have shown that the health care professionals lack such knowledge (13-16, 44, 45).

#### **Research limitations**

Considering the culture of society and sensitivity to religious issues and questions, response bias might have affected the responses of the participants in the questionnaire. However, it was attempted to resolve this limitation by not requiring the participants to write down their family names and using coding. In this study, the effect of training on maternal knowledge and attitude was examined only through a questionnaire. In addition, we did not investigate the effect of training on maternal and neonatal clinical outcomes.

#### **Research strengths**

One of the strengths of this study was

the encouragement of the mothers to adopt appropriate healthy practices based on religious culture. The findings of this study can be helpful to confront various changes in pregnancy and pay attention to the implementation of religious education for the promotion of mental health during pregnancy. Moreover, our findings are useful in the enhancement of maternal satisfaction with pregnancy.

### Suggestions for future studies

Further studies are recommended to investigate the effect of religiosity on maternal performance, as well as maternal and neonatal outcomes.

### Conclusion

According to the findings of this study, training religious doctrines in the field of health care during pregnancy and childbirth could positively affect the promotion of maternal religious attitudes. It seems that religious doctrines should be considered as the key component of training by health care specialists so that they can understand the clients' religious needs and provide comprehensive care during the prenatal and intrapartum periods.

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### Conflicts of interest

The authors declare no conflicts of interest.

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