**Introduction**

Pregnancy is a physiological phenomenon and an enjoyable period of a woman’s life. In addition, childbirth is an important incident in her life (1). Each pregnant woman acts in a unique way regarding tolerating pregnancy and labor pain compared to their pregnant counterparts. Many factors affect this reaction including the mothers’ training, economic status, unwanted pregnancy, abortion records, and undesirable physiological symptoms such as vaginal bleeding and fever with anxiety related to the pregnancy (2). Generally, pregnant women face anxiety, sleep disturbances, frequent waking up, nighttime sleep deprivation, and effective sleep deprivation from the 12th week of pregnancy in the first two months after the labor. These problems in the sleep pattern are due to the anxiety, or they cause anxiety (3).

Anxiety is a psychological state which occurs as a result of dealing with mental or real stressors (4). Therefore, paying attention to mother’s anxiety during pregnancy is very important and the health personnel should have knowledge about the risk factors, symptoms, and interventions which reduce the mothers’ anxiety. Further, anxiety reduction interventions during pregnancy can have a significant role in maternal and fetal health. Basically, hormones which are produced in response to anxiety such as catecholamine, cortisol, epinephrine, and beta-endorphins may interfere in the progression of cervical dilatation, affect the smooth muscles of the uterus, and reduce the contraction ability of the uterus and its efficacy in the process of the childbirth, which ultimately, prolong the delivery, increase pain, and cause anxiety (5).

Furthermore, the mother’s anxiety and unpleasant mood during her pregnancy increase the maternal cortisol and the adrenal secretion in the fetus, which directly influences the mood of the fetus (3,6).

Babies of those mothers who have severe anxiety during their pregnancy are restless, cry more and demonstrate further behavioral changes compared to those of non-anxiety mothers (7,8). One study (6) found that maternal anxiety affects the time and variability of the fetus’s heart rate and mimics long-lasting and rising patterns (tachycardia).

Moreover, tension and negative experiences of mothers during their pregnancy have a negative impact on physical growth, motor-behavioral development, and the...
psychological dimension of the newborn (9). According to the estimation of the World Health Organization, more than 80% of the women with low-risk pregnancies experience some degree of anxiety during pregnancy. Additionally, one woman among every three to five pregnant women has anxiety problems in developing countries while this rate is one woman in every 10 pregnant women in developed countries (10).

Accordingly, several methods were reported for reducing the rate of anxiety in various studies. For example, yoga, slowly moving the body, and massage can help reduce maternal anxiety while these exercises improve pregnancy outcomes (11). In addition, based on the findings of one study the growth restriction of the fetus of depressed and distressed women who received massage therapy during pregnancy and labor was 75% less than that of women without massage therapy. Further, the rate of birth with low weight reduced by 80%. Finally, the anxiety and depression scores of pregnant women decreased (12).

Given the impact of pregnant women' anxiety problems on the growth and health of the fetus, the present study aimed to determine the dimensions of mothers' spiritual well-being and their forgiveness trait and its relationship with labor anxiety. In 94% of the studies, it was observed that patients equally emphasize both their spiritual and physical well-being. A study regarding the family physicians found that 96% of the respondents believed that mental health was an important factor in health; however, the spiritual health of the patients was frequently neglected (13).

Furthermore, the results of various studies indicated that patients with physical injuries and suffering have a tendency toward religious beliefs since religion helps them tolerate the suffering and pain arising from their disease. Similarly, Al Zaben et al (14) represented that religious beliefs enable the patients to achieve widespread social support and motivate them to accept treating the disease and coping with the related stress.

For instance, faithful patients have high expectations for religious experts' intervention during suffering from the illness and believe that their cancer can be treated by the prayer of the others. Moreover, meeting members of the mosque and their support and encouragement have an effect on the patients' health (14).

Based on the results of another study, relationship with God and praying was considered a great deal of hope reported by the patients. Additionally, other spiritual sources, family members, health care workers, and the medical team played an important role in their treatment. Relationship with God and support of their families was found to give more hope to the patients and increase their recovery (15).

In addition, the ability to forgive is regarded as one of the most essential and influential variables on the mental health of the individuals, which was greatly emphasized. The main religions of the world including Islam, Christianity, and Judaism encouraged forgiveness. For example, in Islam, there are many verses in the Quran about forgiving those who bothered you, and even recommending that: “You should forgive people who bothered you and behave well toward such people” (16).

Tse and Yip found a significantly positive relationship between forgiveness and psychological well-being and interpersonal adjustment. Therefore, these two variables can be improved in individuals and they may increase the physical dimensions and psychological well-being of the individuals throughout their lives (17).

Since the obstetricians are involved in reproduction of humans, then obstetrics is always an up-to-date issue and appropriate to the present situation. The goal of this specialty is to promote health and increase the well-being of the pregnant woman and her fetus by high-quality prenatal cares. The importance of the obstetrics is permanently increasing given that the maternal and neonatal outcomes are used as one of the indicators of the quality of life and health of human societies. Further, the midwife is the one who has the most chance to associate with the pregnant woman during her pregnancy, therefore, highlighting the importance of her role in counseling, training, and supporting the pregnant women is essential. Considering the lack of sufficient studies in this field, the present research was conducted to examine and improve the quality of the mother and baby's physical and mental health. Accordingly, the study investigated the relationship between spiritual health and forgiveness of the mother with maternal anxiety during her labor.

Materials and Methods
Participants
Given the statistical consultation, the sample size included 200 based on multiple regression analysis and 10 samples were selected for each variable of the current study. Totally, 100 subjects were primigravida while 100 of them were multigravida and were selected using a simple sampling method. Furthermore, those women who had the criteria were included in the study. The inclusion criteria were lack of high-risk pregnancy (i.e., twin pregnancies, problems with the placenta and fetus, the pregnancy age of 37-42 weeks, absence of internal disease, mother and fetus surgery, fetal distress in the beginning, mental illness, and lack of using psychoactive drugs including imipramine, and the like) and being in the active phase of the labor (at least 4 cm dilatation). Moreover, the exclusion criterion included the mothers who disagree to continue participating in the project in which case, they could discontinue the study.

Design
This study was of the cross-sectional descriptive-analytic type and its population encompassed all the pregnant women who referred to three maternity hospitals affiliated to Shiraz University of Medical Sciences.
Tasks and Procedure
Totally, 4 instruments were used for data collection.

1. Demographic Questionnaire
The first part of this questionnaire contained personal and general information and the second part included medical information and pregnancy records.

2. Paloutzian and Ellison Spiritual Health Scale
This scale included twenty questions on religious health (n=10) and measuring the health of a person (n=10). The spiritual health score of these two subgroups was between 20 and 120. The questions were answered on a 6-point Likert-type scale ranging from “Completely disagree” to “Completely agree”. Finally, the spiritual health of the people was divided into 3 low (20-40), medium (41-99), and high (100-120) groups. Paloutzian and Ellison reported a Cronbach’s Alpha coefficient of 0.91, 0.91, and 0.93 for the questionnaire. The Cronbach’s alpha coefficient for this questionnaire has been estimated by Heydarzadegan in Iran, as quoted from Elaheh Bakhshiyan, to be 0.82 (18,19).

3. Forgiveness Scale
This scale was designed and developed by Pollard et al to determine the level of forgiveness in families and dimensions of forgiveness. The main form of the scale contained 40 phrases which referred to the state of anger and annoyance, along with forgiveness among the family members. Each phrase included options “4 = almost always true”, “3 = often true”, “2 = seldom true”, and “1 = never true”. High and low levels indicated the presence and lack of forgiveness in the family, respectively. Bahari and Seif studied the norms to estimate the psychometric properties related to the measuring scale of the community’s forgiveness in the created family of Pollard et al (20). The Cronbach’s Alpha coefficient of the forgiveness scale in the family was 84.5, indicating that the questionnaire enjoyed a satisfactory level of reliability (21).

4. Spielberger State-Trait Anxiety Inventory
Anxiety Scale was used to measure anxiety including 40 questions and 80 grades. This test encompassed 40 questions evaluating the trait anxiety (20 items) and state anxiety (20 items). The total scores of both trait and state anxiety scales were in the range of 20-80. The scores related to these items were classified into 4 groups including 0-19 (natural anxiety), 20-40 (mild anxiety), 41-60 (moderate anxiety), and 61-80 (severe anxiety) and higher scores indicated a higher rate of anxiety. In the case of Spielberger anxiety test, Mahram et al standardized this questionnaire in Iran and calculated its reliability as 0.91 by the Cronbach alpha. The reliability obtained by Mahram et al was the basis for the present study (22).

Results
Among the 200 individuals in the sample group, 17 (8.5%) cases were less than 20 years. Additionally, the highest (n=61, 30.5%) and lowest (n=7, 3.5%) frequencies belonged to those who were 30-26 and over 40 years old, respectively. In addition, 154 (79%) of whom have less than a diploma, 14 (7%) have a diploma, and 32 (14%) have university degrees. Further, based on the results, the number of women suffering from different levels of anxiety (i.e., mild, moderate, relatively severe, and severe) included 111 (55.5%), 42 (21%), 43 (21.5%), and 4 (2%) women, respectively. Furthermore, the mean and standard deviation (SD) of anxiety was 36.15±15.37 (Table 1).

Based on results of Pearson correlation test, the correlation between spiritual health and maternal trait anxiety and state anxiety and the total score of anxiety was obtained -0.329, -0.385, and -0.363, respectively, with a significance level of 0.0001 which was 0.05 lower than the assumed error in the study. Therefore, there was a significant negative relationship between spiritual health and state anxiety, and between the trait anxiety and the mother’s anxiety. In other words, higher spiritual health, red to the lower level of the state, trait, and mother’s anxiety (Tables 2 and 3). Moreover, Pearson correlation tests revealed that the correlation between mother forgiveness and mother’s anxiety, the state anxiety, and the anxiety was equal to -0.352, -0.39, and -0.377, respectively, with a significance level of 0.0001, indicating 0.05 lower than the assumed error in the research. Accordingly, a significant negative relationship was detected between the mother’s forgiveness and state anxiety, as well as the trait of anxiety and the mother’s anxiety. Therefore, the higher level of the mother’s forgiveness indicated a lower level of state anxiety, trait anxiety, and mother’s anxiety (Tables 4 and 5).

Table 1. Frequency and Percent Frequency of Anxiety Variable in the Sample Group

<table>
<thead>
<tr>
<th>No.</th>
<th>%</th>
<th>Total Anxiety</th>
<th>Situational Anxiety</th>
<th>Personality Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Normal</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mild</td>
<td>111</td>
<td>55.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Medium</td>
<td>42</td>
<td>21</td>
<td>36.15</td>
<td>15.37</td>
</tr>
<tr>
<td>Fairly intense</td>
<td>43</td>
<td>21.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Intense</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>200</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Further, Jabbari et al investigated the effect of Holly Quran vocalization with and without translation on the level of stress, anxiety, and depression during pregnancy among Iranian pregnant women and found that the religious beliefs reduced the anxiety (25). Based on the findings of the current study, continuous training programs should be offered for pregnant women by health personnel based on the needs of these women and their access to pregnancy services in order to reduce their level of anxiety. Furthermore, establishing special clinics for pregnant women can be an effective step for training programs during the pregnancy, improving mental status and pregnancy problems, and creating a more comfortable feeling in pregnant women.

Moreover, using different training programs (26-29) and training regarding religious beliefs and morality is frequently considered a constructive coping strategy for improving the mental health of the individuals. Intervventional research indicated that training, awareness, and spiritual attitude can reduce anxiety and depression while it can promote the mental health of the mother and fetus, as well as non-pregnant women (30-33).

The women in each of the above-mentioned groups were in a special situation which created anxiety for each individual of the group; it was proved that in all the studies similar to the present study, people can reduce their anxiety by increasing their spiritual health under any conditions. Additionally, a significant negative relationship was found between anxiety and spiritual well-being of the mothers.

In the current study, there was a significant negative relationship between mother’s forgiveness and trait anxiety, as well as mother’s anxiety and state anxiety. Therefore, the higher level of the mother’s forgiveness decreased the level of trait anxiety and the mother’s anxiety (34). Over the past 2 decades, the issue related to the trait of forgiving and society’s health has attracted a lot of attention and its role in promoting maternal health has increasingly recognized. Although forgiveness is confirmed to be useful, further studies are needed in this respect.

In a study conducted by Lavafpour Nouri et al, the effect of the psychological-training protocol of the forgiveness was investigated on depression, anxiety, and stress among adolescents. The findings represented that forgiveness training can reduce the symptoms of depression, anxiety, and stress among the students. Although contrary to the present study, this study was interventional, and most importantly, it was not related to pregnant women, similar to the present study, an increase was observed in forgiveness score while the level of anxiety decreased (35).

In another study, Zhang et al reported that forgiveness intervention was effective in dealing with interpersonal problems among the students whose romantic relationship was damaged. In addition, they found a significant improvement in anxiety, depression, and well-being while only the forgiveness group demonstrated a meaningful improvement in forgiveness. Further, the effectiveness of

### Discussion

Having the trait of forgiveness and paying attention to empathic perspectives can reduce the level of psychological stress (23). The results showed that 55.5% of the population of the study had a mild anxiety, 21% suffered from moderate anxiety, 21.5% had a relatively severe anxiety and 2% had intensive. Additionally, a significant relationship was observed between mental health and the mother’s anxiety (i.e., situational, personality, and general anxiety scores). To evaluate the anxiety of pregnant mothers in their third trimester of pregnancy and its related factors, a study was performed by Sadeghi et al including 75 pregnant women who referred to Bandar Abbas hospitals. The results of the study demonstrated that 42.6% of the women had clearly moderate and severe anxiety whereas 57.3% of them suffered from mild anxiety. In addition, 45.3% of these pregnant women had hidden moderate and severe anxiety whereas 54.6% of them suffered from mild anxiety. This is in line with the results of the present study, indicating that the majority of pregnant women experienced a mild level of anxiety (24).
treatment for the forgiveness group was longer compared to the control group (36).

Furthermore, Yazla et al investigated 100 diabetic patients with various socio-demographic characteristics, emotional problems, and glycemic control, as well as the relationship between religious beliefs and forgiveness. They emphasized that forgiveness by the patient or others has a relationship with emotional problems and can reduce the level of stress. Finally, it was revealed that forgiveness increases the quality of life of diabetic patients (37).

Considering the fact that few studies were performed regarding the forgiveness, especially in the process of pregnancy, the above studies demonstrated that forgiveness can have a positive effect on the reduction of anxiety in the lives of individuals.

Anxiety is common during pregnancy and thus can have a negative effect on the health of the mother, and fetus, as well as the newborn baby. Therefore, attention to anxiety in pregnancy is of great importance. Prenatal visits were considered a suitable opportunity to train pregnant mothers and training interventions were found to reduce the rate of anxiety (38,39).

Conclusions
Based on the results, more than half of the mothers had mild anxiety while 21.5% of them suffered from relatively severe anxiety. Moreover, there was a significant negative relationship between the forgiveness-spiritual health and mother’s state anxiety, as well as between trait anxiety and a total score of anxiety. Therefore, developing programs concerning spiritual training and strengthening the trait of forgiveness for evaluating the mental health of mothers in prenatal cares seem to be logical.

Conflict of Interests
Authors declare that they have no conflict of interests.

Ethical Issues
This research project was approved by the local Ethics Committee of Shiraz University of Medical Sciences (ethical code: IR.sums.REC.1395.5717) and written informed consents were obtained from all the participants. Additionally, the research proposal No. 12362 was financially supported by the Research Vice-chancellor of Shiraz University of Medical Sciences.

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