

Relationship between Spiritual Intelligence with Happiness and Fear of Childbirth in Iranian Pregnant Women

Abstract

Background: Spiritual intelligence is a person's ability to feel a connection to a higher power and a sacred entity. With regard to its relation with happiness, it can have an important effect on the mental health of pregnant women. Therefore, this study aimed to investigate the relationship between spiritual intelligence and happiness and fear of childbirth in pregnant women. **Materials and Methods:** This cross-sectional study was conducted on 245 low-risk pregnant women from June till September 2015. Using random cluster sampling method, the subjects were selected among the women who referred to health care centers in Shahroud (Northeast of Iran). After obtaining informed consent, the researchers evaluated the spiritual intelligence, happiness, and fear of childbirth. Data were analyzed using STATA12 and Chi-square test, *t*-test, analysis of variance, and Structural Equation Model. **Results:** In this study, the spiritual intelligence mean (SD) score was 64.43(16.51). Comparison between mothers with and without fear of childbirth showed there was a significant difference between the spiritual intelligence score and happiness mean scores in these two groups. There is a negative correlation between spiritual intelligence and happiness with fear of childbirth (-0.73 and -0.69, respectively). **Conclusions:** Increased level of spiritual intelligence in pregnant women can lead to an increase in their happiness and reduce their fear of childbirth. The fear of childbirth can be prevented via trainings to pregnant women about the components of spiritual intelligence; moreover, training the techniques to achieve more happiness can help mothers to reduce their fear of childbirth and hence promote natural childbirth.

Keywords: Fear, happiness, intelligence, midwifery, pregnant women

Introduction

Spiritual intelligence is a human capacity to ask questions about the meaning of life and the world where we live.^[1] Spiritual intelligence is a full picture of human intelligence which increases the human ability to connect to a higher power and a sacred entity.^[2] Those who have a higher level of spiritual intelligence are more flexible and self-conscious, and have a holistic attitude to existence and hardships of life.^[3]

Those with higher spiritual intelligence are benefiting from several capacities, for instance, they have the power to cope with stress, change the threats of life into opportunities, and finally they have a better mental health status.^[4] Recent studies have shown that spirituality can be used for the treatment of infertile couples, help them to deal with the problems caused by frustration, and enhance the effectiveness of the treatment.^[5,6] Spiritual intelligence is

the adaptive use of spiritual information to facilitate the process of problem-solving and to achieve the personal goals.^[3] Spirituality increases people's capacity to tolerate the stresses of life and motivates people to make more efforts to find solutions to problems.^[7] The researchers showed that increasing the level of spirituality in life can help to overcome inconsistencies in life and increases people's satisfaction with life.^[8] Some people believe that childbirth is a spiritual experience, and they even say that the difficult times of pregnancy are also a spiritual experience.^[9] Spirituality is an essential element required to prepare a woman for childbirth during pregnancy.^[10] On the contrary, given that pregnancy and childbirth is one of the most stressful life events in every woman's life,^[11] it is of great importance to assess the factors required to cope with the stress of pregnancy and childbirth, so that to make it a pleasant event.

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Happiness is a personal judgment about the desirability of the overall quality of life and it shows how much a person loves his/her life.^[12] The sense of happiness during pregnancy is associated with reduced pain and greater pain tolerance.^[13] According to the results of a study, 57% of mothers had high levels of happiness during pregnancy, and none of the subjects reported a low level of happiness.^[14]

More than 80% of women with low-risk pregnancy experience some degrees of fear of childbirth.^[15] The most common cause of mothers' request for cesarean section is fear of childbirth.^[16-18] One out of every five pregnant women experiences the fear of childbirth, and 6–13% of pregnant women experience intense fear of childbirth.^[19]

Spiritual intelligence can have a great impact on the mental health of pregnant women. It can increase happiness and decrease the stress. The impact of spiritual intelligence on pregnant women outcomes was not well studied. With regard to relation between some other psychological indicators such as happiness, stress with pregnancy outcome, the study on relation between these variables on pregnancy women is necessary. The increased level of happiness and reduced level of stress can decrease the fear of childbirth and reduce a lot of unnecessary cesarean sections requested by mothers. Taking into consideration the above-mentioned relations, this study aimed to investigate the spiritual intelligence and its relationship with happiness and fear of childbirth. It is worth mentioning that few studies have been conducted in Iran to assess the effects of spiritual intelligence, happiness, and fear of childbirth during pregnancy on pregnant women.

Materials and Methods

This cross-sectional study was conducted on 245 pregnant women during June till September 2015. The inclusion criteria were the followings: ages between 18 and 45 years, gestational age between 20 and 34 weeks of pregnancy, no history of neuropsychiatric disease, not using psychiatric drugs, lack of medical conditions associated with pregnancy, no history of substance abuse and/or smoking, no history of severe stress in recent year, low-risk or normal pregnancy, and being literate. Based on the exclusion criteria, mothers who did not meet the above-mentioned criteria or were not willing to participate in the study were excluded from the study. We only included mothers with a gestational age between 20 and 34 weeks because the risk of miscarriage is removed after the 20th week of gestation. In addition, after the 34th week of gestation, the risk of preterm labor and pregnancy complications and diseases may increase; hence, after the 34th week of gestation it is difficult to select samples with low-risk pregnancy. We used multistage random sampling method to select the subjects from among the mothers who visited their health care centers. The samples were selected from three centers out of 11 health centers, so that the selected samples were most similar to the general population of pregnant women.

After selecting the subjects, according to an interview, the mothers with inclusion and exclusion criteria signed a written consent form for participation to the study. The study goals and procedures of the research were explained by researcher. Then a medical and demographic form was filled out, including mother's age, education, and history of utilization of midwifery services via an interview by an expert midwife. Then the mothers filled out the questionnaires. We used childbirth attitude questionnaires (CAQ), which is an instrument used to measure fear of childbirth. It has 16 items that are scored on a four-point Likert scale. The fear of childbirth was scored between 16 and 64, and its middle point, i.e., 32 was set as the cut-off point. A higher score on this scale means that the person had more fear of childbirth. The Persian version of this questionnaire has logical and content validity; in addition, its reliability have been confirmed by researchers.^[20] The content validity of the questionnaire was confirmed by various psychology experts; the internal consistency of the questionnaire was 83%.^[21] The content validity was also confirmed in a study by Delavar Ghavam *et al.* and Alizadeh Goradel,^[22] which aimed to evaluate the role of meta-cognitive believes and positive and negative emotions in fear of childbirth in primiparous women. We also used the Spiritual Intelligence Self-Report Inventory (SISRI), which is developed by David King in 2008. This questionnaire has 24 items and is used to measure the spiritual intelligence based on a five-point Likert scale. Its score ranged between 0 and 96. Spiritual intelligence has the following four subscales: First, critical existential thinking (CET), second, personal meaning production (PMP), third, transcendental awareness (TA), and fourth, conscious state expansion (CSE). In Khodabakhshi's study, Cronbach's alpha coefficient was 91% for the whole questionnaire, 75% for critical thinking, 79% personal meaning production, 66% for transcendental awareness, and 80% for consciousness state expansion. This questionnaire was used for pregnant women.^[23] The Oxford Happiness Questionnaire was the third questionnaire used to measure and evaluate the welfare and wellbeing that included happiness as well. Many various tools have been developed so far to measure happiness, and Oxford Happiness Questionnaire is one of the most common tools. This questionnaire has 29 items and each question is scored between 0 and 4. Accordingly, the score of happiness for every person consisted of the sum of scores of all questions for that person. Thus, the maximum score was 116 and the minimum score was 0. The happiness score was divided into several categories: happiness score ≤ 60 , an average happiness score between 60 and 90, and high happiness score >90 . This questionnaire has been used in numerous studies conducted on pregnant women.^[24,25] The collected data were entered into STATA-12 software and were analyzed using *t*-test, Chi-square test, analysis of variance (ANOVA), and structural equation model (SEM). The relationship between spiritual intelligence, happiness,

and fear of childbirth as latent variables was investigated using SEM. Using this method, the unidirectional and bidirectional impact of variables on each other are evaluated. Sample size was calculated considering a correlation of 0.5 between spiritual intelligence and stress,^[23] power of 80%, and confidence level of 95%.

Ethical considerations

The study was approved by the Research Council and Ethics Committee of Shahroud University of Medical Sciences and received an ethical approval code (IR.SHMU.REC.1394.37) and written informed consents were obtained from all participants.

Results

In this study which was conducted on 245 pregnant women, the mean (SD) of spiritual intelligence score of participants was 64.43(16.51) (min = 29.0, max = 96.0). Also, the mean (SD) of happiness and fear of childbirth in the pregnant women were 77.36(21.87) (range: 5–116) and 35.78(13.91) (range: 16–64), respectively.

As presented in Table 1, the results showed that the spiritual intelligence, happiness, and fear of childbirth had no significant difference in terms of mother’s demographic characteristics and obstetrical history, including the acceptance of pregnancy, mother’s age, mother’s education level, father’s education level, and number of parity ($p > 0.05$). According to the results shown in Table 1, there was a statistically significant difference between the scores of the spiritual intelligence ($p = 0.006$) and happiness ($p = 0.02$) in mothers whose spouse were smoker.

According to the results shown in Table 2, there was a statistically relationship between the mean score of the spiritual intelligence and fear of childbirth, such that mothers who had no fear of childbirth had a higher level of spiritual intelligence. The results of Table 2 showed that mothers who had no fear of childbirth had higher scores in all the four dimensions of intelligence, and this difference was statistically significant ($p = 0.0001$). Also the score of happiness in people who had no fear of childbirth was higher and there was a statistically significant difference between the mean score of happiness in mothers with and without fear of childbirth ($p = 0.0001$). The results of this study showed that in the group with no fear of childbirth the number of people with higher levels of happiness was more, and vice versa. The results of Chi-square test showed a significant difference between happiness and fear of childbirth ($p = 0.0001$) [Table 2].

According to the results shown in Table 3, there was a statistically significant difference between the score of the spiritual intelligence in terms of happiness level, so that mothers who had a higher level of happiness also had a higher score of spiritual intelligence. In other words,

Table 1: Evaluation of the scores obtained for demographic and obstetrical history variable mean (SD*)

	Spiritual intelligence mean(SD)	Happiness Mean(SD)	Fear of childbirth Mean(SD)
Mother age			
≤35 years	65.73(17.06)	78.93(22.04)	35.71 (14.07)
>35 years	59.92(17.73)	71.54(21.08)	40.72(13.56)
<i>p</i>	0.11	0.11	0.08
Education level of mother			
<12 years	62.17(18.82)	74.82(25.06)	36.64(15.25)
More than 12 years	66.11(16.54)	79.23(21.07)	36.17(14.04)
<i>p</i>	0.12	0.18	0.83
Education level of husband			
≤12 years	64.25(17.73)	76.77(23.06)	35.54(14.54)
>12 years	65.57(16.92)	78.82(22.04)	36.61(14.23)
<i>p</i>	0.57	0.48	0.58
Number of parity			
Primiparous	65.53(16.12)	78.82(20.01)	35.73(14.07)
Multiparous	64.04(18.07)	77.62(23.08)	36.71(14.02)
<i>p</i>	0.16	0.57	0.058
Acceptance of pregnancy			
Planned	64.93(16.02)	77.47(21.61)	35.19(13.82)
Unplanned	60.50(19.37)	75.06(24.36)	40.33(13.86)
<i>p</i>	0.70	0.70	0.60
Spouse smoking			
No	66.42 (16.41)	35.31(14.12)	80.17(21.75)
Yes	54.52(15.49)	40.71(15.64)	67.42(21.07)
<i>p</i>	0.006	0.12	0.02

Yr: Year; SD: Standard deviation

Table 2: Evaluation of spiritual intelligence and happiness in terms of fear of childbirth

	Fear of childbirth		Test	<i>p-value</i>
	No	Yes		
Spiritual intelligence				
Spiritual intelligence (total)	75.11(10.88)	54.80 (14.71)	$t=-12$	0.001
CET (mean (SD*))	22.53(3.71)	16.44(4.92)	$t=-10$	0.001
PMP (mean (SD*))	16.12(2.73)	11.57(3.44)	$t=-11$	0.001
TA (mean (SD*))	14.12(2.11)	10.91(2.73)	$t=-9.5$	0.001
CSE (mean (SD*))	22.53(3.54)	15.81(4.92)	$t=-12$	0.001
Happiness (mean [SD*])	91.82(14.70)	64.50(19.04)	$t=-12.3$	0.001
Happiness				
Low (%)	2 (3.71)	52 (96.30)	$\chi^2=86.4$	0.001
Average (%)	44 (41.13)	63 (58.92)		
High (%)	69 (84.28)	13 (15.83)		

*SD: Standard deviation

people with higher score of spiritual intelligence are happier ($p = 0.0001$).

Table 3: Evaluation of mean (SD) score of spiritual intelligence in terms of happiness

Variable	Happiness (Mean (SD))			Test	
	Low	Average	High	F	p
Spiritual intelligence	45.84(13.35)	61.93(11.03)	78.88(9.17)	152.85	<0.001

*SD: Standard deviation

The evaluation of the various aspects of spiritual intelligence showed that the mean (SD) values obtained for each of the dimensions were as follows: 19.31(5.35) for the first factor, i.e., CET, 13.61(3.82) for the second factor, i.e., PMP, 12.43(2.93) for the third factor, i.e., TA, and 18.92(5.45) for the fourth factor, i.e., CSE.

SEM was used to measure the relationships between spiritual intelligence, happiness, and fear of childbirth which are the latent variables. The results of analysis of variables using SEM are presented in Figure 1. As shown, there was a significant bidirectional correlation between spiritual intelligence and happiness, and they influenced each other. Accordingly, people with higher levels of spiritual intelligence are happier (0.83). There was a bidirectional correlation between spiritual intelligence and fear of childbirth; this relationship was statistically significant and negative (-0.73). Hence, people with higher levels of spiritual intelligence had less fear of childbirth. There was a significant bidirectional and inverse correlation between happiness and fear of childbirth. Happiness can have an effect on the fear of childbirth, so people with higher levels of happiness had less fear of childbirth ($r = -0.69$). The overall results obtained from the tests performed, like *t*-test, Chi-square test, and ANOVA showed that there were significant differences between the scores of spiritual consciousness and fear of childbirth, happiness and fear of childbirth, and spiritual intelligence and happiness.

Discussion

According to the results, the mean (SD) score of happiness was 77.2 (21.9), which is not consistent with the mean happiness score reported by Najafi Sani *et al.*, i.e., 116.2 (15.2).^[25] In our study, the mean happiness score was average, which is in line with the results of studied by Cheng *et al.*^[26] and Najafi Sani *et al.*^[25] It is also consistent with the results of a study by Golmakani *et al.*^[24] who reported that religious activities provided people with a sense of connection to an almighty power and caused peace and happiness. In this study, there was a statistically significant difference between the score of the spiritual intelligence and happiness level; this finding is consistent with Amirian study that bivariate correlations support positive and significant predictive value of spiritual intelligence toward general health and happiness.^[27] In addition, according to the results of our study, there was a significant relationship between the spiritual intelligence

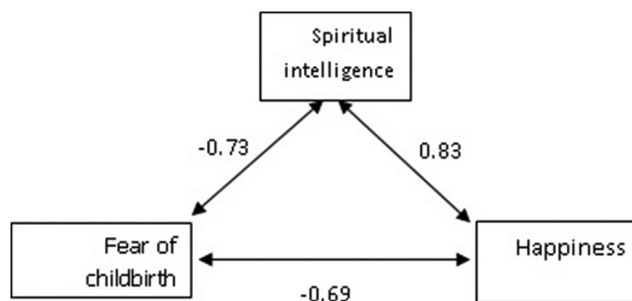


Figure 1: Relationship between latent variables using SEM

and happiness, so the people who have higher levels of happiness, the mean score of spiritual intelligence increased. It is consistent with the results of Bagheri's study.^[28]

In this study, there was no statistically significant difference between the mean score of fear of childbirth with age, education, and this finding is consistent with the results of Akhlaghi's study.^[29] In this study, the mean (SD) score of fear of childbirth was 35.78(13.91), which is consistent with the results of studies by Delavar Ghavam^[22] [38.0 (9.89)] and Akhlaghi [35.5 (1.0)].^[29] It is also almost consistent with the results of a study by Khorsandi *et al.*; they assess the effect of relaxation on reducing the fear of childbirth and the request for normal delivery in primiparous women. According to the results of their study, the mean (SD) score of fear of childbirth before the intervention was 40.71 (6.23) in the control group and 39.35 (6.96) in the case group.^[20] Spirituality is important for pregnant women, because Moloney finds that when midwives' spiritual care was evident, women's birth experiences appeared enhanced, providing a solid foundation for confident mothering.^[30]

In this study, the mean (SD) score of spiritual intelligence was 64.43(16.51), which was lower than the score reported by Tavakolizadeh *et al* who assessed the role of spiritual intelligence in the strategies to cope with the stress; according to the results of that study, the mean (SD) score of spiritual intelligence was 92.72 (13.27).^[31] However, there was a statistically significant difference between the spiritual intelligence and the scores of fear of childbirth and happiness. Accordingly, with increasing the score of the spiritual intelligence in women, their fear of childbirth was reduced; it is in line with the results of studies by Khodabakhshi Kolae,^[23] Tavakkolizadeh,^[31] and Zamani, because spiritual intelligence and quality of life are the important strategies that can reduce negative emotions such as pregnancy anxiety.^[32] This is also supported by a study by Sanagoo that recommended the healing power of Quran for health promotion.^[33] Moreover, a study by Akbarizadeh also showed that the promotion and strengthening of spiritual intelligence could help to promote the general health of nurses.^[34] The evaluation of the various aspects of spiritual intelligence showed that

the mean (SD) values obtained for each of the dimensions were as follows: 19.31(5.35) for the first factor, i.e., CET, 13.61(3.82) for the second factor, i.e., PMP, 12.43(2.93) for the third factor, i.e., TA, and 18.92(5.45) for the fourth factor, i.e., CSE. Kolaei conduct a study to determine the relationship between spiritual intelligence and coping with stress in pregnant women; he studied the mean score of different dimensions of spiritual intelligence and according to the results all dimensions of spiritual intelligence were significantly associated with the ability to cope with stress. It is consistent with the results of our study, which showed that all the dimensions of spiritual intelligence had statistically significant relationship with fear of childbirth. According to the results of Khodabakhshi Kolaei's study, the mean (SD) scores obtained for every dimension of spiritual intelligence, respectively, were 15.33 (5.25), 12.8 (4.0), 14.96 (5.7), and 8.97 (4.36); these findings are almost in line with the results of our study.^[23] In our study according to the results presented in Table 2, a statistically significant difference was found between happiness classes and fear of childbirth. Accordingly, people with higher class of happiness had less fear of childbirth; it is not in line with the results of a study by Akhlaghi who reported no statistically significant difference between depression and fear of childbirth,^[29] while the depression score is opposite to the happiness score.

One of the limitations of this study was the cross-sectional design. This can tolerate the causal inference about the relationship between the spiritual intelligence, happiness, and fear of childbirth. Another limitation of the study can be the implementation of the study among the urban and low-risk pregnant women.

Conclusion

Increasing the level of spiritual intelligence in pregnant women can lead to an increase in their happiness and reduce their fear of childbirth. The fear of childbirth can be prevented via trainings to pregnant women about the components of spiritual intelligence and hence can overcome the greatest obstacle to the natural childbirth, i.e., fear of childbirth. Spiritual intelligence could help to promote natural childbirth. It is suggested that future studies examine how spiritual intelligence can be used to overcome the fear of childbirth.

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Conflicts of interest

There are no conflicts of interest.

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