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Research Article

Predictors of Fear of Childbirth in Late Pregnancy: Spiritual Well-Being, Religious Attitude and Religious Coping

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Abstract

Many studies have emphasized that birth and pregnancy are spiritual experiences, and spiritual and religious beliefs can help pregnant women prepare for childbirth and overcome the fear of the process. In this study, we investigated the effects of spiritual well-being, religious attitudes, and religious coping styles of pregnant women on fear of childbirth. We conducted this descriptive and cross-sectional study with 111 pregnant women in the last three months of pregnancy who applied to the gynecology and obstetrics outpatient clinic of a university hospital in Turkey. The data were collected using a personal information form, Wijma Delivery Expectancy/Experience Questionnaire-A, the Spiritual Well-Being Scale, the Religious Attitude Scale, and the Religious Coping Scale. We conducted ANOVA, t-tests, Pearson's correlation, and hierarchical linear regression analysis to analyze the data. We found that the level of fear related to childbirth among pregnant women differed based on some socio-demographic characteristics (including employment status, income level, gestational week, and number of pregnancies) ($p < 0.05$). We found that 54.1% of pregnant women had low fear of childbirth, but 1.8% had clinical fear of childbirth. The fear of childbirth was negatively correlated with spiritual well-being, religious attitude, and positive religious coping. The employment status, income level, gestational week, number of pregnancies, and spiritual well-being were significant predictors of fear of childbirth ($p < 0.05$). These variables explained 59% of the total variance in the data on the fear of childbirth. Understanding how spirituality, religious attitudes, and religious coping affect the fear of childbirth and planning care accordingly may help pregnant women experience a more positive pregnancy and birth process and guide interventions to reduce the fear of childbirth.

Keywords:
Spirituality • Religious Attitude • Religious Coping • Fear of Childbirth • Pregnancy

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Giving birth is an extremely stressful event for women (Abdollahpour & Khosravi, 2018; Aguilera-Martín, 2020; Jokić-Begić, Žigić, & Nakić Radoš, 2014), and it is considered to be an existential threshold to be crossed in reproductive age (Aguilera-Martín, 2020; Bilgiç & Çıtak Bilgin, 2021). The expectations and experiences of women related to pregnancy and childbirth are multidimensional; they might include various emotions, ranging from joy and satisfaction to anxiety and terror (Bilgiç & Çıtak Bilgin, 2021; Wigert et al., 2020). When the feeling of uncertainty and anxiety concerning the expected birth is combined with individual beliefs, experiences, and personality traits of the pregnant women, it results in fear of childbirth (Deliktas & Kukulu, 2019; Erdemoğlu, Altıparmak, & Özşahin, 2019; Wigert et al., 2020). Fear of childbirth is defined as a negative cognitive perception of birth and approach to birth with fear and anxiety (Wijma, Wijma, & Zar, 1998).

Fear of childbirth is a distressing emotion that increases the mental morbidity of pregnant women and negatively affects their daily lives (Deliktas & Kukulu, 2019; O'Connell, Khashan, & Leahy-Warren, 2021; Wigert et al., 2020). Approximately 80% of women (Jokić-Begić et al., 2014; O'Connell et al., 2021; Rondung, Thomtén, & Sundin, 2016) experience fear of childbirth during pregnancy, and includes worry, anxiety, and severe fear called tocophobia (O'Connell, Leahy-Warren, Khashan, Kenny, & O'Neill, 2017; Rondung et al., 2016). Some researchers conducted a meta-analysis and found that the prevalence of fear of childbirth in pregnant women globally was 14%. In comparison, 16% of women who had never given birth and 12% who had given birth at least once experienced fear of childbirth (O'Connell et al., 2017). A systematic meta-analysis conducted by a research group to determine the fear of childbirth in healthy pregnant women in Turkey reported that 21% of pregnant women experienced severe fear of childbirth (Deliktas & Kukulu, 2019).

In pregnant women, the fear of childbirth needs to be recognized and the coping mechanism needs to be activated (Abdollahpour & Khosravi, 2018; Deliktas & Kukulu, 2019; Lucero, Pargament, Mahoney, & DeMaris, 2013; O'Connell et al., 2021). Nilsson et al. (2018) reported that fear of childbirth leads to adverse birth outcomes, such as prolonged labor, use of painkillers during labor, intervention delivery, and complications threatening the lives of the mother and baby. Additionally, the fear of childbirth is a leading factor for an increase in the demand for cesarean section, especially in multiparous women (Abdollahpour & Khosravi, 2018; Aguilera-Martín, 2020; Deliktas & Kukulu, 2019; Elvander, Cnattingius, & Kjerulff, 2013; Jokić-Begić et al., 2014). Approximately 7–18.6% of women with tocophobia request an elective cesarean section without any medical indication (Kanellopoulos & Gourounti, 2022). Some studies have found that women with high fear of childbirth during pregnancy report a more negative birth experience (Aguilera-Martín, 2020; Bilgiç & Çıtak Bilgin, 2021; Elvander et al., 2013) and their postpartum mental health is adversely

affected (Deliktas & Kukulu, 2019; Elvander et al., 2013). These problems that might be experienced due to fear of childbirth during pregnancy may cause women to avoid subsequent pregnancies and refrain from having another child (Rondung et al., 2016).

Several studies have investigated the causes of fear of childbirth (Aguilera-Martín, 2020; Molgora et al., 2018; O'Connell et al., 2021; Rouhe, Salmela-Aro, Halmesmäki, & Saisto, 2009; Wigert et al., 2020). Some reasons include low birth self-efficacy, anxiety, history of depression, history of sexual abuse, lack of partner support, partner dissatisfaction, and a previous negative birth experience (O'Connell et al., 2021; Rouhe et al., 2009). Maternal age, income, employment and education status, and the presence of a social support system are the socio-demographic determinants of fear of childbirth (Abdollahpour & Khosravi, 2018; Aguilera-Martín et al., 2020; Rouhe et al., 2009). Women who have never given birth might experience fear of childbirth due to a lack of experience in infant care and related uncertainties (Aguilera-Martín, 2020), whereas women who have given birth at least once before might experience fear of childbirth due to previous negative experiences related to childbirth (Aguilera-Martín, 2020; Wigert et al., 2020).

Although it is known that the fear of childbirth adversely affects health and well-being, research on coping with this fear is limited (Abdollahpour & Khosravi, 2018; Aguilera-Martín, 2020; Molgora et al., 2018). Hence, the causes that may have a positive or negative effect on the fear of childbirth during pregnancy need to be identified, and the coping mechanisms for this fear need to be elucidated and implemented (Abdollahpour & Khosravi, 2018; Aguilera-Martín, 2020; Molgora et al., 2018; O'Connell et al., 2021). Several studies have emphasized that spiritual and religious beliefs might help pregnant women prepare for childbirth and overcome the fear of the process, as birth and pregnancy are considered to be spiritual experiences (Abdollahpour & Khosravi, 2018; Piccinini et al., 2021). Spirituality guides individuals in solving problems (Puchalski, 2010). Those with high levels of spirituality adapt better to the conditions and adversities of life (Abdollahpour & Khosravi, 2018; Bilgiç & Çıtak Bilgin, 2021; Durmuş, Öztürk, Şener, & Eren, 2022; Piccinini et al., 2021). Spirituality refers to the experiences of individuals in searching for the meaning and purpose of life, whereas religion is the practice that helps perceive closeness between individuals and a higher power (Chehrazi, Faramarzi, Abdollahi, Esfandiari, & Shafierizi, 2021; Puchalski, 2010). Although spirituality and religion are intertwined concepts, they are different. Religion is a dimension of spirituality, but spirituality cannot be limited to religious beliefs and practices (Vitorino et al., 2018). Spirituality and religious beliefs are associated with health outcomes in pregnant women (Chehrazi et al., 2021; Durmuş et al., 2022; Jabbari, Mirghafourvand, Sehhatie, & Mohammad-Alizadeh-Charandabi, 2020; Jesse, Schoneboom, & Blanchard, 2007). Pregnant women may use religious

coping, which includes religious motifs and practices, for coping when faced with difficult situations during pregnancy and childbirth (Jabbari et al., 2020; Jesse et al., 2007). Pregnant women with high religiosity and spirituality have lesser depressive (Chehrazi et al., 2021; Durmuş et al., 2022; Piccinini et al., 2021), anxiety-related, and stress symptoms (Chehrazi et al., 2021; Piccinini et al., 2021). They also have a better quality of life (Abdollahpour & Khosravi, 2018; Chehrazi et al., 2021; Piccinini et al., 2021) and psychological well-being (Bilgiç & Çıtak Bilgin, 2021).

Spirituality and religiosity are essential components of health and well-being. For thousands of years, women have practiced praying and other spiritual practices to resolve their health problems and those of others (Keegan, 2021; Piccinini et al., 2021). Although many studies have investigated the causes and consequences of fear of childbirth (Aguilera-Martín, 2020; Elvander et al., 2013; Molgora et al., 2018; Mortazavi & Agah, 2018; Nilsson et al., 2018; O'Connell et al., 2021; Rouhe et al., 2009), only a few studies have assessed ways to determine the effect of spirituality and religion on variables that can predict fear of childbirth and may help in coping (Abdollahpour & Khosravi, 2018; Bilgiç & Çıtak Bilgin, 2021; Mohamadirizi, Mohamadirizi, Mohamadirizi, & Mahmoodi, 2018). Understanding how spirituality and religion affect the fear of childbirth in pregnant women, especially in traditional countries such as Turkey, where religion and spirituality are closely associated with health, can significantly affect the prenatal care and care planning of these pregnant women. The results obtained from this study might provide greater insights into the relationship between health, spirituality, and religion in pregnant women, provide new information, allow health professionals to develop interventions to reduce the fear of childbirth among pregnant women and improve the quality of prenatal care services.

Purpose

In this study, we investigated the effect of the spiritual well-being, religious attitudes, and religious coping styles of pregnant women on the fear of childbirth.

Research Questions

To address the aim of the study, we answered the following questions.

In women in the last three months of pregnancy,

i. What are the socio-demographic characteristics that affect the fear of childbirth?

ii. What is the frequency and level of fear of childbirth?

iii. What is the level of fear of childbirth, spiritual well-being, religious attitude, and positive and negative religious coping?

iv. Is there a relationship between the fear of childbirth and spiritual well-being, religious attitude, and positive and negative religious coping levels?

v. What is the effect of spiritual well-being, religious attitude, and positive and negative religious coping levels on the fear of childbirth?

Method

Study Designs, Participants and Procedure

This descriptive cross-sectional study was conducted with patients who visited the obstetrics and gynecology outpatient clinic of the University Hospital in Turkey between September 2022 and January 2023. G*Power 3.1.7 (Institute of Experimental Psychology, Heinrich-Heine University, Düsseldorf, Germany) was used to calculate the magnitude of the required participants. We conducted multiple regression analysis with four predictors. We aimed to recruit 108 participants (pregnant women) with a medium effect level (0.15), a power level of 95%, and a significance level of 0.05. We finally included 111 pregnant women in the study. The inclusion criteria for the study were as follows: age between 18 and 45 years, pregnant with a singleton, at least a primary school graduate, in the gestation period of 28–42 weeks [The Wijma Delivery Expectancy/Experience Questionnaire-A can be used at and above 28 weeks of gestation (last three months) (Korukcu, Kukulu, & Firat, 2012)], with a healthy fetus, able to communicate verbally, and voluntary participation in the study. The exclusion criteria for the study were as follows: experienced multiple and risky pregnancies, previously had a cesarean section, suffering from a chronic disease, and diagnosed with a psychiatric disorder.

In total, 249 pregnant women were assessed for eligibility; however, 138 pregnant women were excluded because their gestation period was not in the range of 28–42 weeks (103), had multiple pregnancies (2), had a risky pregnancy (1), had a previous cesarean section (28), or declined to participate (4). Therefore, 111 pregnant women were included in the study based on convenience sampling.

Measurements

The data were collected using the Personal Information Form, the Wijma Delivery Expectancy/Experience Questionnaire-A (W-DEQ-A), the Spiritual Well-Being Scale (SWBS), the Religious Attitude Scale (RAS), and the Religious Coping Scale (RCOPE).

The participant information form. The researchers developed a participant information form based on related studies (Aguilera-Martín, 2020; Elvander et al., 2013; Molgora et al., 2018; Mortazavi & Agah, 2018; Nilsson et al., 2018; O'Connell

et al., 2021; Rouhe et al., 2009). It involved seven questions about age, education, employment status, income level, gestational week, number of pregnancies, and planning pregnancy status.

The wijma delivery expectancy/experience questionnaire-a (W-DEQ-A). Wijma et al. developed the W-DEQ-A in 1998 to measure the fear of childbirth (Wijma et al., 1998). Korukcu et al. (2012) conducted a study to determine the validity and reliability of the W-DEQ-A in Turkey. This five-point Likert-type scale included 33 items. W-DEQ-A scores range from 0 to 165, with higher scores indicating greater fear of childbirth. Wijma and Wijma defined WDEQ-A cutoffs as ≥85 points for severe fear of childbirth and ≥100 points for phobic fear of childbirth. In this study, according to Korukcu et al. (2018), the total scores for the WDEQ-A were categorized as low (≤37 points), moderate (38–65 points), high (66–84 points), and clinical level (≥85 points). In the Turkish version of W-DEQ-A, the value of Cronbach's alpha was 0.89, while it was 0.92 in this study.

The spiritual well-being scale (SWBS). Ekşi and Kardaş developed the SWBS in 2017 to measure spiritual well-being (Ekşi & Kargaş, 2017). This five-point Likert-type scale consisted of 29 items. The score that might be obtained on the scale ranges from 29 to 145. As the score obtained on the scale increases, the level of spiritual well-being increases. The value of Cronbach's alpha for the SWBS was 0.89 (Ekşi & Kargaş, 2017), while it was 0.86 in this study.

The religious attitude scale (RAS). Ok developed the RAS to assess the level of religious attitudes (Ok, 2016). This five-point Likert-type scale consists of eight items. The score that can be obtained on the scale ranges from 8 to 40. Higher scores indicate that the respondents are more religious. The value of Cronbach's alpha was 0.89 for the RAS (Ok, 2016), while it was 0.85 in this study.

The religious coping scale (**RCOPE).** Pargament et al. developed the RCOPE to measure the fear of childbirth (Pargament, Feuille, & Burdzy et al., 2001). Ekşi conducted a study to determine the validity and reliability of the RCOPE in Turkey (Eksi, 2001). This four-point Likert-type scale includes 14 items. It has two subscales consisting of positive religious coping (seven items) and negative religious coping (seven items). Positive religious coping involves having a close relationship with the sacred, believing that suffering has a spiritual meaning, and developing faith in God to solve problems. Negative religious coping involves several aspects, such as spiritual detachment, doubting God's power and love, or not believing that God can offer a solution. A total religious coping score cannot be obtained. The raw score that can be obtained on the positive and negative religious coping subscale varies between 7 and 28. A higher score on the positive religious coping subscale reflects more positive religious coping, whereas a negative score on the negative religious

coping subscale reflects more negative religious coping (Eksi, 2001). The value of Cronbach's alpha for the 'positive religious coping' subdimension of the RCOPE was 0.64, and the Cronbach's alpha reliability coefficient for the 'negative religious coping' subdimension of RCOPE was 0.63 (Eksi, 2001); their corresponding values in this study were 0.77 and 0.85, respectively.

Data Collection Procedure

The data were collected from pregnant women using structured questionnaires by CE. The pregnant women who met the inclusion criteria were informed about the study, and all participants signed an informed consent form. The data were collected through in-person interviews using the participant information forms W DEQ-A, SWBS, RAS, and RCOPE. Each interview lasted approximately 20 min, and the guidelines of the coronavirus pandemic were strictly followed during data collection. The respondents were assured that only researchers could access their data and their personal information would remain confidential.

Data analysis

The data was analyzed using SPSS version 20.0 (Chicago, IL, USA). We determined whether the continuous variables followed a normal distribution by conducting the Kolmogorov-Smirnov test. The descriptive characteristics, including fear of childbirth, spiritual well-being, religious attitude, and positive and negative religious coping styles, of all participants were analyzed by descriptive statistics, including percentage, frequency, mean, and standard deviation. The ANOVA and t-tests were conducted to analyze differences in fear of childbirth according to the participants' descriptive characteristics. The correlations between variables were determined by evaluating Pearson's correlation coefficients. Hierarchical linear regression analyses were conducted to assess whether having a fear of birth was associated with descriptive characteristics, spiritual well-being, religious attitude, and positive and negative religious coping. In the multivariate analysis, only variables statistically significant ($p < 0.05$) in the univariate analysis were included. For the analyses, the variables were divided into four models. The important descriptive characteristics, such as employment status, income level, gestational week, and number of pregnancies, were included in the first model; spiritual well-being was included in the second model, the religious attitude was included in the third model, and positive religious coping was included in the fourth model. Each model was examined using multiple linear regression assumptions, such as correlation coefficients between variables, variance inflation factor (VIF), Durbin-Watson statistics, and tolerance. All results were considered to be statistically significant at $p < 0.05$.

Results

Descriptive characteristics of pregnant women

The average age of the women was 28.96 years (min-max = 19–41 years). Among them, 71% of participants were between 18 and 25 years old, 38.7% were high school graduates, 65.8% were unemployed, and 58.6% perceived that their income was equal to their expenses. The mean gestational age of the pregnant women was 36.63 weeks (min-max = 20–64 weeks). Most participants had a gestational age of 28–32 weeks (53.2%), the number of pregnancies was one in 43.2% of participants, and pregnancy was planned in 73.9% of participants (Table 1).

Univariate analysis of the factors associated with fear of birth

The results of the univariate analyses of the factors associated with fear of childbirth are shown in Table 1. Fear of birth among pregnant women differed according to the descriptive demographic characteristics (including employment status, income level, gestational week, and number of pregnancies). The level of fear of childbirth was higher among unemployed pregnant women (p = 0.004), those women whose income was lesser than their expenses (p = 0.001), whose gestational period was 33–40 weeks (p = 0.002), and with one pregnancy (p = 0.001).

Table 1.

Univariate analysis of the fear of childbirth in the participants (n = 111)

Characteristics	n	%	Fear of childbirth			
			Mean	SD	t/F	p
Age						
Mean±SD (years): 28.96 ±4.96(min-max = 19–41)						
18–25	71	64.0	39.22	19.50	t = 0.783	0.435
25–41	40	36.0	36.11	21.09		
Educational Status						
Primary-secondary school	32	28.8	42.04	22.66		
High school	43	38.7	37.32	18.54	F = 0.949	0.390
University and above	36	32.4	35.52	19.33		
Employment Status						
Employed	38	34.2	30.53	17.87	t = –2.968	0.004
Unemployed	73	65.8	42.03	20.10		
Income level						
Income less than expenses[1]	23	20.7	56.26	24.45	F = 16.062 (1–2.3*)	0.001
Income equals expenses[2]	65	58.6	31.84	15.37		
Income more than expenses[3]	23	20.7	37.60	16.24		
Gestational week						
M±SD (years): 36.63 ±10.05(min–max = 20–64)						
28–32 week	59	53.2	32.68	16.81	t = –3.155	0.002
33–40 week	52	46.8	44.24	21.75		
Number of pregnancies*						
One [1]	48	43.2	43.89	23.75	F = 16.062 (1–3*)	0.001
Two [2]	30	27.0	37.59	13.45		
Three and above[3]	33	29.7	30.13	16.53		
Planning pregnancy						
Planned	82	73.9	37.17	18.34	t = –0.817	0.416
Unplanned	29	26.1	40.71	24.42		

p, level of significance; SD, standard deviation; t, Independent samples t-test; F, Analysis of variance

* Bonferroni test

[1],[2],[3]: Groups with different numbers for each variable in the same column are significant

Descriptive statistics and correlations between the fear of childbirth and spiritual well-being, religious attitude, and positive and negative religious coping

The mean scores of fear of childbirth, spiritual well-being, religious attitude, and positive and negative religious coping are presented in Table 2. The mean fear of childbirth score of the pregnant women was 38.09 ±20.05; 54.1% of participants had a low fear of childbirth, whereas 1.8% had clinical-level fear of childbirth. The mean spiritual well-being score was 123.81 ±12.07, the mean religious attitude score was 35.56 ±4.35, the mean positive religious coping score was 23.92 ±3.88, and the mean negative religious coping score was 11.27 ±4.14. Consequently, their spiritual well-being, religious attitude, and positive religious coping levels were high, and their negative religious coping was low.

The results of Pearson's correlation analysis (Table 2) showed that the level of fear of childbirth was negatively correlated with spiritual well-being (r = –0.695, p = 0.001), religious attitude (r = –0.417, p = 0.001), and positive religious coping (r = –0.409, p = 0.002). The relationship between the level of negative religious coping and fear of childbirth was not significant. Pregnant women with high levels of spiritual well-being, religious attitudes, and positive religious coping experienced lower levels of fear of childbirth.

Table 2.
Descriptive Statistics and Correlations between the Fear of Childbirth and Spiritual Well-Being, Religious Attitude, and Positive and Negative Religious Coping

Scales	**n**	**%**	**Min-Max**	**Low-High values**		
Fear of Childbirth						
Low	60	54.1	0–37	2–37		
Moderate	39	35.1	38–65	38–64		
High	10	9.0	66–84	66–84		
Clinical	2	1.8	85–165	86–118		
	Mean	**SD**	**Min-Max**	**Low-High values**	**r**	**p**
Fear of Childbirth	38.09	20.05	0–165	2–118		
Spiritual Well Being	123.81	12.07	29–145	88–143	-0.695	0.001
Religious Attitude	35.56	4.35	8–40	8–40	-0.417	0.001
Positive Religious Coping	23.92	3.88	7–28	7–28	-0.409	0.001
Negative Religious Coping	11.27	4.14	7–28	7–28	0.019	0.842

SD, standard deviation; r: Pearson's Correlation.

Multivariate analysis of the predictors of fear of childbirth

The results of the hierarchical regression analysis are presented in Table 3. In the regression, all VIF values were lower than 2.0, and tolerance values were lower than 0.1, indicating no problems of multicollinearity. The Durbin-Watson value was 1.210, which indicated that the regression model was valid. Similar to the results obtained from Model 1 in the hierarchical regression analysis for fear of childbirth, we found that the descriptive characteristics explained 34% of the variance in fear of childbirth

Table 3.
The results of hierarchical linear regression analysis regarding the determinants of the acceptance of illness

Variables[a]	Model 1				Model 2				Model 3				Model 4			
	B	SE	β	p	B	SE	β	p	B	SE	β	p	B	SE	β	p
Employment Status (1 = unemployed)	8.290	3.330	0.197	0.014	8.173	2.642	0.194	0.003	8.203	2.619	0.195	0.002	8.178	2.635	0.194	0.002
Income level (1 = income less than expenses)	20.035	3.889	0.407	0.000	10.077	3.329	0.205	0.003	9.666	3.309	0.196	0.004	9.700	3.330	0.197	0.004
Gestational week (1 =33–40 week)	9.027	3.136	0.226	0.005	5.633	2.524	0.141	0.028	5.202	2.515	0.130	0.041	5.162	2.537	0.129	0.044
Number of Pregnancy (1 =One)	8.743	3.159	0.217	0.007	5.224	2.545	0.130	0.043	5.067	2.525	0.126	0.047	5.117	2.552	0.127	0.048
Spiritual Well Being					-0.911	0.114	-0.549	0.000	-0.841	0.121	-0.506	0.000	-0.848	0.129	-0.511	0.000
Religious Attitude									-0.528	0.313	-0.115	0.094	-0.559	0.357	-0.121	0.121
Positive Religious Coping													0.077	0.426	0.015	0.858
F (p)	15.135 (0.001)				31.910 (0.001)				27.537 (0.001)				23.388 (0.001)			
R^2	0.36				0.60				0.61				0.61			
adjR^2	0.34				0.58				0.59				0.59			
R^2-change-					0.24				0.01				0.00			

Abbreviations: B, unstandardized coefficients; β, standardized coefficient; SE, standard error.
[a] Predictor(s) had a statistically significant association with the outcome variable in univariate analysis ($P < .05$).
Durbin-Watson: 1.210; Tolerance: 0.551~0.976; Variance inflation factor: 1.024~1.815

(F = 15.135; p = 0.001). In this model, being unemployed (β = 0.197, p = 0.014), having an income less than expenses (β = 0.407, p = 0.001), being in 33–40 weeks of gestation (β = 0.226, p = 0.005), and having one pregnancy (β = 0.217, p = 0.007) were significantly associated with the fear of childbirth. The significance of these variables was also found in Model 2 (β = 0.194, p = 0.003; β = 0.205, p = 0.003; β = 0.141, p = 0.028; β = 0.130, p = 0.043, respectively). In Model 2, spiritual well-being (β = –0.549, p = 0.001) explained about 24% of the variance in depression (F = 31.910; p = 0.001). In Model 3, religious attitude was not significantly associated with the fear of childbirth (β = –0.115, p = 0.094). Positive religious coping was used as a parameter in Model 4. In the last model, it was specified that being unemployed (β = 0. 194, p = 0.002), having an income less than expenses (β = 0.197, p = 0.004), being in 33–40 weeks of gestation (β = 0.129, p = 0.044), having one pregnancy (β = 0.127, p = 0.048), and spiritual well-being (β = –0.511, p = 0.001) were significantly associated with fear of childbirth. The model explained 59% of the variance in fear of childbirth (F = 23.388; p = 0.001). Religious attitude (β = –0.121, p = 0.121) and positive religious coping (β = 0.015, p = 0.858) were not significantly associated with the fear of childbirth.

Discussion

In this study, we investigated the effects of spiritual well-being, religious attitudes, and religious coping styles on the fear of childbirth in pregnant women in the last three months of pregnancy. The W-DEQ score of the pregnant women was 38.09 ±20.05. The W-DEQ score of pregnant women reported in this study was similar to the scores reported in some studies (Bilgiç & Çıtak Bilgin, 2021; Mohamamdirizi, Mohamadirizi, & Mohamadirizi, 2018; Phunyammalee, Buayaem, & Boriboonhirunsarn, 2019) but lower than those reported in other studies (Mortazavi & Agah, 2018; Serçekuş et al., 2020; Sharma et al., 2022). Mohamamdirizi et al. (2018b) found that the fear of childbirth in low-risk and high-risk pregnant women was 41.7 ±6.0, 42.2 ±6.0, and moderate, respectively. Phunyammalee et al. (2019) reported that the fear of childbirth in low-risk pregnant women was 51.9 ±14.3. The prevalence of high (9%) and severe (1.8%) fear of childbirth in this study was considerably lower than that reported in other studies. The prevalence of fear of childbirth in most studies was between 6.3% and 14.8%, although it varied across countries and cultures (Nilsson et al., 2018; O'Connell et al., 2021). The differences in the findings of the study might be related to how fear of childbirth is perceived in the culture in which the study was conducted. Birth is perceived not only as a physiological process but also as a culture-specific life event that strengthens bonds between families and communities; it is a spiritually rich experience (Keegan, 2021). Additionally, differences in the socio-demographic characteristics of pregnant women, the characteristics of the health institutions (such as a university hospital), and the quality of the service received might have led to this result. In the university hospital where the study was

conducted, prenatal care nurses provided group training to pregnant women in the last months of their pregnancy to prepare them for delivery as a part of routine care practice and conducted discussions where these women could ask questions after the group training. We could not evaluate the effects of receiving such prenatal education in this study, but this variable should be considered in future studies. Nilsson et al. (2018) emphasized in their systematic review that antenatal education is a relatively inexpensive intervention that can reduce the fear of childbirth.

Socio-demographic factors may strongly influence the fear of childbirth among women (Deliktas & Kukulu, 2019; Elvander et al., 2013; Sharma, Vyas, Gothwal, & Arumugam, 2022; Soltani, Eskandari, Khodakarami, Parsa, & Roshanaei, 2017). In this study, those women who were unemployed had lower incomes than expenses, were closer to delivery, or had a previous pregnancy experienced higher fear of childbirth. Additionally, a hierarchical regression analysis was performed to determine the relationship between socio-demographic characteristics and the fear of childbirth. In the first model, socio-demographic variables explained 34% of the variance in fear of childbirth. These variables maintained their significance in the fourth and final model. Similar to the findings of this study, other studies found that women who were unemployed and had low income (Bilgiç & Çıtak Bilgin, 2021; Elvander et al., 2013; Serçekuş, Vardar & Özkan, 2020; Phunyammalee et al., 2019), those who were experiencing their first pregnancy, and whose delivery was imminent (Phunyammalee et al., 2019; Rouhe et al., 2009; Serçekuş et al., 2020; Sharma et al., 2022) experienced high levels of fear of childbirth. Mortazavi and Agah (2018) emphasized that women who have not given birth before experience more intense anxiety related to childbirth, especially in the last months of pregnancy. Financial concerns might also contribute to the fear of childbirth. Soltani et al. (2017) reported that among demographic characteristics, pregnant women with a low household income had the highest fear of childbirth, and women with more than three pregnancies had the lowest fear of childbirth. O'Connell et al. (2021) conducted a meta-analysis and reported that women who had never given birth had higher levels of fear of childbirth than those who had given birth (16% vs. 12%). However, some studies reported that socio-demographic characteristics did not affect fear of childbirth (Jokić-Begić et al., 2014; Molgora et al., 2018). Our findings emphasized the importance of health professionals in reducing the level of fear related to childbirth in pregnant women from vulnerable groups.

Different cultures believe that pregnancy and childbirth enrich the spirituality of women (Abdollahpour & Khosravi, 2018; Bilgiç & Çıtak Bilgin, 2021; Chehrazi et al., 2021; Jesse et al., 2007; Mohamadirizi et al., 2018). Wojtkowiak (2020) emphasized that spirituality in pregnancy and childbirth is a fundamental aspect of humanity and care practice and should not be neglected. According to them, spiritual well-being needs to be focused on at the beginning of life and the end of life. Studies have reported

that women view pregnancy and childbirth as a spiritual experience that brings them closer to God (Abdollahpour & Khosravi, 2018; Chehrazi et al., 2021; Mohamadirizi et al., 2018). In this study, the level of spiritual well-being among pregnant women was high. Our findings were similar to those of other studies (Abdollahpour & Khosravi, 2018; Chehrazi et al., 2021; Durmuş et al., 2022), which reported the high spiritual well-being of pregnant women. In a study by Jesse et al. (2007), 47% of pregnant women stated that spirituality positively affected their pregnancy. Therefore, spiritual care during pregnancy might be a vital component of holistic health management in terms of coping with negative situations that might occur during pregnancy.

This study was conducted in Turkey, where people are mostly Muslim, and the level of religious attitudes of pregnant women assessed in the study matched those recorded in studies conducted with women from different religious and cultural backgrounds (Silva et al., 2010; Wilkinson & Callister, 2010). Piccinini et al. (2021) found that pregnant women in their study had a high level of religious affiliation. A study conducted in Brazil showed that most pregnant women had religious affiliations, and 60.8% of them followed the practices required by their religious beliefs (Silva, Ronzani, Furtado, Aliane, & Moreira-Almeida, 2010). Wilkinson and Callister (2010) showed that most women believed that God would aid them in the process of childbirth and could influence their outcomes of pregnancy and birth. Assessing the religious attitudes of women can help elucidate key information that might be used to provide culturally specific care.

Prayer makes women feel relaxed under stressful situations such as childbirth (Bilgiç & Çıtak Bilgin, 2021). Religious interventions such as prayer therapy, listening to holy books, and religious conversations positively affect anxiety and depression levels and help pregnant women cope with childbirth (Jabbari et al., 2020; Aguilera-Martín et al., 2021). In this study, we found that the positive religious coping level of pregnant women was above average, whereas their harmful religious coping level was low. Some studies have reported that by performing religious activities, people feel peaceful and happy and have a sense of connection with an omnipotent power (Abdollahpour & Khosravi, 2018; Jabbari et al., 2020; Silva et al., 2010). Piccinini et al. (2021) reported that negative religious coping is less common in pregnant women. In a study that compared high-risk and low-risk pregnancies, Vitorino et al. (2012) found that negative coping was associated with depressive symptoms in the high-risk group. Similar results were reported in a study in which women experiencing their first pregnancy were evaluated along with their spouses (Lucero et al., 2013). Lucero et al. (2013) found that negative coping was associated with more depressive and anxious symptoms and lower levels of satisfaction among pregnant women. In contrast, positive religious coping was essential to cope with stress. The findings of that study suggested that pregnant women make religious practices a part of their daily lives for a healthy pregnancy and birth process.

Our results indicated that pregnant women with higher spiritual well-being, religious attitudes, and positive religious coping had lower fear of childbirth. However, when spiritual well-being was added to the model in the second stage of regression analysis, the model explained 58% of the variance in fear of childbirth. Religious attitudes and positive religious cognition were added to the third and fourth models, respectively, but they did not significantly affect the fear of childbirth. Mohamadirizi et al. (2018) empirically evaluated the effect of religious and spiritual instruction on the fear of childbirth and found that the fear of childbirth significantly decreased in pregnant women who received religious and spiritual education. The findings of that study suggested that spiritual well-being strongly influences the fear of childbirth, and an increase in spiritual well-being in pregnant women can reduce the fear of childbirth. In the country where the study was conducted, religion and spirituality were not included in prenatal education within the scope of prenatal care services. However, considering the relationship between this variable and the fear of childbirth, spiritual well-being should be included in training programs, considering that women who fear childbirth are five times more likely to have a negative birth experience (Elvander et al., 2013). To increase the spiritual well-being of pregnant women, health professionals who provide prenatal care services should consider the level of religious attitudes of pregnant women and provide care by promoting positive religious coping mechanisms, which might reduce the fear of childbirth in some pregnant women.

Limitations

This study had some limitations. The design of the study prevented us from determining causality. Thus, longitudinal studies need to be conducted in the future. Another limitation is that the findings are based on the self-reports of pregnant women. The large number of items in the questionnaire and scales used for collecting the data is another limitation. In this study, the effects of receiving prenatal education could not be evaluated, but this variable should be assessed in future studies.

Conclusion

The findings of this study might provide greater insights into the effect of spiritual and religious beliefs on the fear of childbirth in pregnant women. The results showed that pregnant women experienced moderate fear of childbirth and that some socio-demographic characteristics (employment status, income level, gestational week, and number of pregnancies) affected their fear of childbirth. Pregnant women with high levels of spiritual well-being, religious attitude, and positive religious coping experienced lower levels of fear of childbirth; spiritual well-being was found to be an important determinant of the fear of childbirth.

Understanding how spiritual well-being, religious attitudes, and religious coping affect the fear of childbirth in pregnant women can help in designing interventions that

can more effectively reduce their fear of childbirth. Such interventions can significantly affect the prenatal care (depressive and anxiety-related symptoms) of pregnant women. If health professionals can address the fear of childbirth early in pregnancy and are aware of the relationship among health, spirituality, and religion in pregnant women, they might be able to provide a better quality of care. However, more effective interventions need to be developed, evaluated, and implemented to reduce the fear of childbirth.

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Ethical approval. The study protocol was approved by the Non-Interventional Clinical Research Ethics Committee of the University (Date: 06.09.2022; Decision No: GO 22/765). The study followed the relevant guidelines and regulations of the Declaration of Helsinki. All participants provided written consent after being informed of the risks and benefits of the study. They were also informed that they could leave the study without providing a reason.

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References

Abdollahpour, S., & Khosravi, A. (2018). Relationship between spiritual intelligence with happiness and fear of childbirth in Iranian pregnant women. *Iranian Journal of Nursing and Midwifery Research, 23*(1), 45-50. https://doi.org/10.4103%2Fijnmr.IJNMR_39_16

Aguilera-Martín, Á., Gálvez-Lara, M., Blanco-Ruiz, M., & García-Torres, F. (2021). Psychological, educational and alternative interventions for reducing fear of childbirth in pregnant women: A systematic review. *Journal of Clinical Psychology*, *77*(3), 525–555. https://doi.org/10.1002/jclp.23071

Bilgiç, G., & Çıtak Bilgin, N. (2021). Relationship between fear of childbirth and psychological and spiritual well-being in pregnant women. *Journal of Religion and Health*, *60*(1), 295–310. https://doi.org/10.1007/s10943–020–01087–4

Chehrazi, M., Faramarzi, M., Abdollahi, S., Esfandiari, M., & Shafierizi, S. (2021). Health promotion behaviours of pregnant women and spiritual well-being: Mediatory role of pregnancy stress, anxiety and coping ways. *Nursing Open*, *8(*6), 3558–3565. https://doi.org/10.1002/nop2.905

Deliktas, A., & Kukulu, K. (2019). Pregnant women in Turkey experience severe fear of childbirth: A systematic review and meta-analysis. *Journal of Transcultural Nursing*, *30*(5), 501–511. https://journals.sagepub.com/doi/10.1177/1043659618823905

Durmuş, M., Öztürk, Z., Şener, N., & Eren, S. Y. (2022). The relationship between the fear of COVID-19, depression and spiritual well-being in pregnant women. *Journal of Religion and Health*, *61*(1), 798–810. https://doi.org/10.1007%2Fs10943–021–01448–7

Ekşi, H. (2001). *An exploration of the relationship between coping, religious coping and mental health. The comparison of the students of faculties of education, divinity and engineering* (Publication No. 108983) [Doctoral dissertation, Uludag University]. National Thesis Center. https://tez.yok.gov.tr/UlusalTezMerkezi/tezSorguSonucYeni.jsp

Ekşi, H., & Kardaş, S. (2017). Spiritual well-being: Scale development and validation. *Spiritual Psychology and Counseling*, *2*(1), 73–88. https://doi.org/10.12738/spc.2017.1.0022

Elvander, C., Cnattingius, S., & Kjerulff, K. H. (2013). Birth experience in women with low, intermediate or high levels of fear: Findings from the first baby study. *Birth*, *40*(4), 289–296. https://doi.org/10.1111/birt.12065

Erdemoğlu, Ç., Altıparmak, S., & Özşahin, Z. (2019). The effect of personality traits of pregnants and their ways of coping with stress on the fear of childbirth. *The Journal of Turkish Family Physician*, *10*(3). https://doi.org/10.15511/tjtfp.19.00330

Jabbari, B., Mirghafourvand, M., Sehhatie, F., & Mohammad-Alizadeh-Charandabi, S. (2020). The effect of holly Quran voice with and without translation on stress, anxiety and depression during pregnancy: A randomized controlled trial. *Journal of Religion and Health*, *59*(1), 544–554. https://doi.org/10.1007/s10943–017–0417-x

Jesse, D. E., Schoneboom, C., & Blanchard, A. (2007). The effect of faith or spirituality in pregnancy: A content analysis. *Journal of Holistic Nursing*, *25*(3), 151–158. https://doi.org/10.1177/0898010106293593

Jokić-Begić, N., Žigić, L., & Nakić Radoš, S. (2014). Anxiety and anxiety sensitivity as predictors of fear of childbirth: Different patterns for nulliparous and parous women. *Journal of Psychosomatic Obstetrics & Gynecology*, *35*(1), 22–28. https://doi.org/10.3109/0167482X.2013.866647

Kanellopoulos, D., & Gourounti, K. (2022). Tocophobia and women's desire for a caesarean section: A systematic review. *Maedica*, *17*(1), 186-193. https://doi.org/10.26574/maedica.2022.17.1.186

Keegan, B. (2021). Gospel of Gold: Unearthing Religious Spaces in the Nineteenth-Century American West. *Religion and American Culture*, *31*(1), 106–135. https://doi.org/10.1017/rac.2021.3

Korukcu, O., Kukulu, K., & Firat, M. Z. (2012). The reliability and validity of the Turkish version of the Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) with pregnant women. *Journal of Psychiatric and Mental Health Nursing*, *19*(3), 193–202. https://doi.org/10.1111/j.1365–2850.2011.01694.x

Lucero, S. M., Pargament, K. I., Mahoney, A., & DeMaris, A. (2013). Links between religious and spiritual coping and adjustment among fathers and mothers during first pregnancy. *Journal of Reproductive and Infant Psychology*, *31(*3), 309–322. https://doi.org/10.1080/02646838.2013.798864

Mohamadirizi, S., Mohamadirizi, M., Mohamadirizi, S., & Mahmoodi, F. (2018a). The effect of religious-spiritual support on childbirth self-efficacy. *Journal of Education and Health Promotion*, *7*(14), Article 29417074. https://doi.org/10.4103%2Fjehp.jehp_60_17

Mohamamdirizi, S., Mohamadirizi, M., & Mohamadirizi, S. (2018b). The comparison of fear of childbirth and sense of coherence among low-risk and high-risk pregnancy women. *Journal of Education and Health Promotion*, *7*, 143-148. https://doi.org/10.4103%2Fjehp.jehp_179_17

Molgora, S., Fenaroli, V., Prino, L. E., Rollè, L., Sechi, C., Trovato, A., ... & Saita, E. (2018). Fear of childbirth in primiparous Italian pregnant women: The role of anxiety, depression and couple adjustment. *Women and Birth*, *31*(2), 117–123. https://doi.org/10.1016/j.wombi.2017.06.022

Mortazavi, F., & Agah, J. (2018). Childbirth fear and associated factors in a sample of pregnant Iranian women. *Oman Medical Journal, 33*(6), 497-505. https://doi.org/10.5001%2Fomj.2018.91

Nilsson, C., Hessman, E., Sjöblom, H., Dencker, A., Jangsten, E., Mollberg, M., ... & Begley, C. (2018). Definitions, measurements and prevalence of fear of childbirth: A systematic review. *BMC pregnancy and childbirth*, *18*, 1–15.https://doi.org/10.1186/s12884–018–1659–7

O'Connell, M. A., Khashan, A. S., & Leahy-Warren, P. (2021). Women's experiences of interventions for fear of childbirth in the perinatal period: A meta-synthesis of qualitative research evidence. *Women and Birth*, *34*(3), 309-321. https://doi.org/10.1016/j.wombi.2020.05.008

O'Connell, M. A., Leahy-Warren, P., Khashan, A. S., Kenny, L. C., & O'Neill, S. M. (2017). Worldwide prevalence of tocophobia in pregnant women: Systematic review and meta-analysis. *Acta Obstetricia et Gynecologica Scandinavica*, *96*(8), 907–920. https://doi.org/10.1111/aogs.13138

Ok, Ü. (2016). The Ok-religious attitude scale (Islam): Introducing an instrument originated in Turkish for international use. *Journal of Beliefs & Values*, *37*(1), 55–67. https://doi.org/10.1080/13617672.2016.1141529

Pargament, K., Feuille, M., & Burdzy, D. (2011). The Brief RCOPE: Current psychometric status of a short measure of religious coping. *Religions*, *2(*1), 51–76. https://doi.org/10.3390/rel2010051

Phunyammalee, M., Buayaem, T., & Boriboonhirunsarn, D. (2019). Fear of childbirth and associated factors among low-risk pregnant women. *Journal of Obstetrics and Gynaecology*, *39*(6), 763–767. https://doi.org/10.1080/01443615.2019.1584885

Piccinini, C. R. P., de Castro Almeida, V., da Silva Ezequiel, O., de Matos Fajardo, E. F., Lucchetti, A. L. G., & Lucchetti, G. (2021). Religiosity/spirituality and mental health and quality of life of early pregnant women. *Journal of Religion and Health*, *60*, 1908–1923. https://doi.org/10.1007/s10943–020–01124–2

Puchalski, C. M. (2010). Religion, medicine and spirituality: what we know, what we do not know and what we do. *Asian Pacific Journal of Cancer Prevention*, *11*(1), *45*–49. http://journal.waocp.org/article_25168_5f356898f1e24f35a54c60540494d6de.pdf

Rondung, E., Thomtén, J., & Sundin, Ö. (2016). Psychological perspectives on fear of childbirth. *Journal of Anxiety Disorders*, *44,* 80–91. https://doi.org/10.1016/j.janxdis.2016.10.007

Rouhe, H., Salmela-Aro, K., Halmesmäki, E., & Saisto, T. (2009). Fear of childbirth according to parity, gestational age, and obstetric history. *BJOG: An International Journal of Obstetrics & Gynaecology*, *116*(1), 67–73. https://doi.org/10.1111/j.1471–0528.2008.02002.x

Serçekuş, P., Vardar, O., & Özkan, S. (2020). Fear of childbirth among pregnant women and their partners in Turkey. *Sexual & Reproductive Healthcare*, *24*, 100501. https://doi.org/10.1016/j.srhc.2020.100501

Sharma, K., Vyas, H., Gothwal, M., & Arumugam, G. (2022). Fear of childbirth and its contributing factor–An exploratory study at a tertiary care hospital. *Indian Journal of Psychiatric Nursing*, *19*(2), 98-103. https://doi.org/10.4103/iopn.iopn_64_21

Silva, C. S., Ronzani, T. M., Furtado, E. F., Aliane, P. P., & Moreira-Almeida, A. (2010). Relação entre prática religiosa, uso de álcool e transtornos psiquiátricos em gestantes. *Archives of Clinical Psychiatry (São Paulo)*, *37*, 152–156. https://doi.org/10.1590/S0101–60832010000400002

Soltani, F., Eskandari, Z., Khodakarami, B., Parsa, P., & Roshanaei, G. (2017). Factors contributing to fear of childbirth among pregnant women in Hamadan (Iran) in 2016. *Electronic physician, 9*(7), 4725–4731. https://doi.org/10.19082%2F4725

Vitorino, L. M., Chiaradia, R., Low, G., Cruz, J. P., Pargament, K. I., Lucchetti, A. L., & Lucchetti, G. (2018). Association of spiritual/religious coping with depressive symptoms in high-and low-risk pregnant women. *Journal of Clinical Nursing*, *27*(3–4), e635-e642. https://doi.org/10.1111/jocn.14113

Wigert, H., Nilsson, C., Dencker, A., Begley, C., Jangsten, E., Sparud-Lundin, C., ... & Patel, H. (2020). Women's experiences of fear of childbirth: a meta-synthesis of qualitative studies. *International Journal of Qualitative Studies on Health and Well-Being*, *15*(1). https://doi.org/10.1080/17482631.2019.1704484

Wijma, K., Wijma, B., & Zar, M. (1998). Psychometric aspects of the W-DEQ; a new questionnaire for the measurement of fear of childbirth. *Journal of Psychosomatic Obstetrics & Gynecology*, *19*(2), 84–97. https://doi.org/10.3109/01674829809048501

Wilkinson, S. E., & Callister, L. C. (2010). Perceptions of childbearing among women in the Ashanti Region of Ghana. *Health Care for Women International*, *31*(3), 201–220. https://doi.org/10.1080/07399330903343858

Wojtkowiak, J. (2020). Ritualizing pregnancy and childbirth in secular societies: Exploring embodied spirituality at the start of life. *Religions*, *11*(9), 1-16. https://doi.org/10.3390/rel11090458