




Religiosity/Spirituality and Mental Health and Quality of Life of Early Pregnant Women

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Abstract

The present study aims to investigate how religious/spiritual (R/S) beliefs are associated with depressive, anxious and stress symptoms and quality of life (QOL) of 160 Brazilian women in early pregnancy. In this cross-sectional study, religiosity/spirituality (DUREL, Daily Spiritual Experiences, Brief-RCOPE), mental health (DASS-21) and quality of life (WHOQOL-Bref) were assessed. Negative R/S coping was associated with higher levels of depressive, anxious and stress symptoms and worse physical and psychological QOL. On the other hand, positive R/S coping, intrinsic religiosity, and spirituality were associated with better psychological QOL, while only spirituality was associated with better social QOL.

Keywords Spirituality · Religion and medicine · Obstetrics · Mental health · Quality of life

Introduction

Around 213 million women become pregnant every year (Sedgh et al. 2014) and the rate of adolescent pregnancy is about 11–13% worldwide (Coley and Chase-Lansdale 1998; Ganchimeg et al. 2014). In Latin America, the rate of adolescent pregnancy is about 18%, with half of cases occurring in just seven countries, including Brazil (Monteiro et al. 2019; WHO 2009). Pregnancy is considered a biologically natural event and a special time in a woman's life (Bell and Palma 2000). However, it is also a phase marked by many physical changes, both bodily and sexual, driven by metabolic rhythms and hormonal influences (Clark et al. 2009; Szejer et al. 1997).

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All of the pregnancy alterations tend to become less relevant from the second trimester of pregnancy, when fetal movements are more noticeable. Numerous psychological changes take place during this phase, given the woman begins to change her concept of the fetus, hitherto perceived as part of her, soon to become an independent autonomous individual (Piccinini et al. 2004). At this transition point, there is a need for restructuring and readjustment in a number of dimensions, particularly concerning changes in identity and redefining of roles (Antunes and Patrocínio 2007). Thus, the first trimester is considered a time of great emotional vulnerability during which ambivalent feelings can arise (Antunes and Patrocínio 2007).

All of these physiological, social, family and psychological changes, which commence from confirmation of pregnancy, can have a major impact on the development of the pregnancy and on maternal-child well-being and health. Psychological factors associated with complications include stressors experienced during pregnancy (Faisal-Cury et al. 2009). Studies have shown that stressors such as maternal anxiety, health of the baby, diseases associated with pregnancy, social problems, insomnia, and low social and family support can affect the mental health of pregnant women (Bei et al. 2010; Pawar et al. 2011), predisposing them to general mood disorders.

Psychological and psychiatric disturbances during pregnancy and/or the immediate postpartum period can have negative consequences for both the mother-child relationship and family relationship. Depression and anxiety in pregnancy and immediate postpartum period are associated with stronger punitive attitudes held by the mother toward her other children and/or the baby, lower spontaneity and responsiveness in infant care, and greater marital problems (Cunningham and Zayas 2002), and also influence the starting and duration of breastfeeding (Dennis 2006).

Pregnant women seek numerous strategies to cope with this new life situation and with the stressors arising during this period, e.g., support from family, friends, psychological support, self-help groups, integrative therapies (O’connor et al. 2016; et al. 2017), meditation, relaxation (Beiranvand et al. 2014), courses for pregnant women and a search for spiritual and religious support drawing on their own beliefs or religious communities (Kazemi et al. 2017).

Studies show that these beliefs are correlated with health outcomes. In general, individuals with greater religiosity and spirituality have fewer depressive and anxious symptoms (Koenig 2007; Lucchetti et al. 2012a, b), better quality of life and psychiatric outcomes (Koenig 2009; Bonelli and Koenig 2013) and also a lower mortality rate (Lucchetti et al. 2011).

Major universities have investigated “Spirituality and Health” and over 30,000 related studies have been published on Pubmed in the last 15 years (Lucchetti and Lucchetti 2014). However, most of the current literature focuses on the spiritual health of individuals suffering from chronic or terminal diseases, while spirituality or religiosity during childbearing age has received little research attention (Page et al. 2009).

Women have used prayer and spiritual practices to help cope with their “health issues” for millennia (Callister and Khalaf 2010). However, studies addressing the religiosity and spirituality of pregnant women are scarce. Some authors report that cultural determinants exert a major influence on the lives of pregnant women

(Leininger 1978; Macy and Falkner 1981). In this context, religious practices, saints and prayers are part of the everyday lives of pregnant women who adhere to religious aspects in the hope of receiving divine protection from a higher power, thereby ensuring a successful pregnancy and birth (Bezerra and Cardoso 2006; Simões 1998). A study performed in 2010 showed that most women believed God would influence the results of their pregnancy and birth. Likewise, many women report trusting in God to help ensure healthy births (Wilkinson and Callister 2010).

A study of Iranian women showed that, from the cultural and religious perspective of these women, there was a physical and mental influence of these pregnant women on the care provided to the neonate and on self-care during the pregnancy. Prenatal care involving a multidisciplinary team in the cultural, social and religious context were facilitators during the pregnancy and for the care of the newborn (31). Lastly, a recent study showed a relationship between health risk behaviors and religious involvement in pregnant women, concluding that religious beliefs were a strong correlate of fewer health risk behaviors, such as smoking, drinking, marijuana use and having multiple sex partners (Page et al. 2009).

Understanding how religiosity and spirituality influence the health and quality of life of Brazilian pregnant women can have a major impact during prenatal care of these patients. Broadening knowledge on the relationship between health and spirituality in pregnant women can enable more effective interventions during prenatal care, in an effort to reduce psychological suffering and promote better quality care and follow-up of these women.

Objectives

To investigate how religious and spiritual beliefs are associated with depressive, anxious and stress symptoms and quality of life of Brazilian women in early pregnancy.

Methods

Study Design, Date and Ethical Aspects

A prospective, cross-sectional study of Brazilian pregnant women was conducted between November 2016 and November 2018. The present study was approved by the Research Ethics Committee of the Federal University of Juiz de Fora under permit number 1.881.783/2016 and all participants signed the consent form.

Study Venue

The study was conducted on pregnant women from the city of Juiz de Fora, Brazil. Juiz de Fora is a reference city in the countryside of Minas Gerais state, Brazil and has a population of around 600,000 people. The study participants were recruited

from the city's different prenatal services, including the obstetrics outpatient clinic of the Federal University of Juiz de Fora (UFJF) and the obstetrics clinic of the Therezinha de Jesus Hospital, both providing prenatal service. These clinics are also referral centers for women with low-risk pregnancies from neighboring cities.

Eligibility Criteria

The study sample was selected using the following inclusion criteria: pregnant women present at the first consultation of prenatal care at the outpatient clinics cited above and whose gestational age was ≤ 16 weeks. Pregnant women with prior psychiatric disorders detected by a physician or by previous diagnosis and those who did not have the clinical or intellectual capacity to answer the study questionnaire were not included.

Procedures

The visits to the obstetrics clinic were previously scheduled on set days of the week. The participants were randomly selected (i.e., each day researchers had a list of patients that would attend medical consultations. These patients were randomized using the list randomization procedure available in the software random.org). The included patients were invited and interviewed using a questionnaire. The questionnaire was applied by the project researchers or by previously trained residents from the first year of gynecology and obstetrics at the UFJF. The questionnaire was applied in a reserved room within the clinic during the first prenatal consultation. The pregnant women were approached by a team of previously trained researchers and the questionnaire took around 40 min to apply. All participants voluntarily signed the consent form and the fact of participating in the study had no bearing on the treatment received.

Instruments

Data were collected by applying a questionnaire gathering:

- Sociodemographic data (age, race, education, marital status, occupation, income);
- Obstetrics data (gestational age, type of pregnancy, obstetric antecedents, breastfeeding for previous pregnancy, complication in previous pregnancies).
- Religiosity (Duke Religion Index—DUREL): developed by Koenig et al. (Koenig and Büssing 2010), comprises a 5-item measure assessing three major dimensions of religious involvement related to health outcomes, namely: Organizational Religiosity (Koenig and Büssing 2010)—frequency of attending religious meetings; Non-Organizational Religiosity (Koenig and Büssing 2010)—frequency of private religious activities; Intrinsic Religiosity (Moreira-Almeida et al. 2006)—refers to the search to internalize and fully live religiosity as a master motive of the individual. The DUREL is a succinct, easy-to-apply instru-

ment which assesses some of the main domains of religiosity and has been used in numerous cultures for this purpose (Koenig and Büssing 2010). Recently, a group of researchers translated the original version of the DUREL (P-DUREL) for use in Brazil (Moreira-Almeida et al. 2008). This instrument was later validated in a low-income community-dwelling sample from São Paulo city. The findings of the study confirmed the instrument's high internal consistency and adequate discriminant validity (Lucchetti et al. 2012a, b). In this study, lower scores in the Duke Religion index subdimensions represent higher religious beliefs.

- Spirituality (Daily spiritual experiences—DSE): the Brazilian version of Underwood's Daily Spiritual Experience Scale (DSES) followed the internationally recommended steps and the adapted version reflected the original, after changes to the wording of five items. The DSES is a 16-item scale and is considered a uni-dimensional measure. The first 15 items are arranged in a Likert-type scale, with scores ranging from 1 (many times a day) to 6 (never or almost never). Item 16, In general, how close do you feel to God? Is answered on a 4-point scale (from 1 = not close to 4 = as close as possible). The score for item 16 must be inverted to be in the same direction as the other items. Total score is attained by summing all the scores of the 16 items, and ranges from 16 to 94 (Kimura et al. 2012).
- Spiritual/Religious Coping Scale (BriefRcope): A brief revised version was devised from factorial analysis of the full RCOPE to produce only two factors (positive and negative), from which seven items were selected from each factor to produce the 14-item BriefRcope. Responses are given on a 5-point Likert scale (1- not at all to 5- a great deal). Confirmatory factorial analysis of these 14 items was performed, indicating the two-factor solution suitable for the data (Panzini and Bandeira 2005; Esperandio et al. 2018). Religious coping can be defined as the way individuals use their faith to cope with stress and life problems—where faith may include religion, spirituality or personal beliefs. Positive coping occurs when faith promotes adaptation deemed healthy. In general, this type of coping is underpinned by beliefs of love and embrace related to God and is associated with better psychological adaptation in response to the stress of diseases. A religious coping reaction is characterized as negative when it provokes an existential crisis and is generally related to holding the belief that the disease represents blame or punishment (Panzini and Bandeira 2005).
- Social Support (Perceived Social Support Scale—PSSS): The PSSS was validated in 2008 and comprises 29 items assessed on a 4-point scale for responses (1 = never, 2 = rarely, 3 = often, 4 = always), by which participants indicate how often they perceive the possibility of relying on someone's support. The scale is based on three theoretical dimensions of social support: emotional support, instrumental support and informational support (Siqueira and Maria 2008).
- Depressive, anxious and stress symptoms (Depression, Anxiety and Stress Scale, short 21-item version—DASS-21): The DASS-21 was translated into Portuguese by Vignola et al. (Vignola and Tucci 2014). The DASS-21 is a set of three self-complete Likert-type 4-point sub-scales. Each sub-scale comprises seven items, designed to assess depression, anxiety and stress states. The interviewee is asked

to indicate the extent each item applied to them during the past week. There are four severity or frequency responses on a scale of 0–3 points, where the result is calculated as the sum of the answers to the items in each of the three sub-scales.

- Quality of life (WHOQOL-bref): The need for instruments that are brief and quick-to-complete, yet provide satisfactory psychometric properties, led to the WHO Quality of Life Group developing a short version of the WHOQOL-100, the WHOQOL-bref. This contains 26 questions, of which two are general questions on the quality of life and the other 24 represent each of the 24 facets in the original instrument. The WHOQOL-bref comprises four domains: physical, psychological, social relationships and environment. The instrument exhibits good internal consistency, discriminant validity, concurrent validity, content validity and test–retest reliability (Fleck et al. 2000).

Sample Size

The sample size was calculated using the G*Power 3.1 software. For a moderate effect size ($d=0.50$), alpha of 0.05 and $1-\text{Beta}=0.80$ and two-tailed allocation, at least 132 pregnant women should be included.

Statistical Analysis

Statistical analyses were performed descriptively, expressed as absolute and relative frequency, mean and standard deviation. On the inferential statistic, the existence of associations between the religiosity and spirituality dimensions (independent variables) were determined for the outcomes quality of life, stress, depression and anxiety (dependent variables). These analyses were carried out using hierarchical linear regression models, adjusting for the following models: Model 1 (age, education, marital status and race), model 2 (model 1 + Gestational age in weeks, Number of Pregnancies, Number of Deliveries, Number of abortions) and model 3 (model 2 + practical social support and emotional social support). The statistical software package SPSS version 21 (SPSS Inc.) was used and a $p < 0.05$ was adopted as significant.

Results

Of the 200 pregnant women approached at the different clinics, 160 were included in the final sample (response rate: 80%). The main reasons for non-inclusion were lack of time, previous psychiatric disorders and refusal to take part in the study. The women included had a mean age of 26 years (SD:5.71), mean gestational age of 10.5 weeks (SD:3.27) and mean educational level of 12.10 years of study (SD:4.78). Regarding marital status, 58 (36.3%) reported being single, 73 (45.6%) declared they were white, and 107 (66.8%) were primiparous (Table 1). With regard to participants' beliefs, the average level of religiosity of the women was high (Table 2). Positive coping had higher averages than negative coping and levels of spirituality

Table 1 Sociodemographic characteristics

	<i>n</i>	%
<i>City of origin</i>		
Juiz de Fora	144	92.5
Other	16	7.5
<i>Marital status</i>		
Single	58	36.3
Living together	44	27.5
Divorced	2	1.3
Married	56	35.0
<i>Ethnicity</i>		
White	73	45.6
Black	37	23.1
Mixed	43	26.9
Indigenous	1	0.6
Asian	6	3.8
<i>Number of pregnancies</i>		
1	107	66.8
2	36	22.5
>=3	17	10.7
<i>Number of deliveries</i>		
0	114	71.3
1	35	21.9
2	9	5.6
>=3	2	1.2
<i>Number of vaginal deliveries</i>		
0	131	81.9
>=1	29	8.1
<i>Number of cesarean deliveries</i>		
0	142	88.8
>=1	18	11.2
<i>Number of abortions</i>		
0	144	90.6
>=1	16	
	Mean	SD
Age	26.18	5.71
Education (years)	12.10	4.78
Pregnancy time	10.51	3.27
Number of pregnancies	1.46	0.91
Number of deliveries	0.38	0.74
Number of vaginal deliveries	0.25	0.67
Number of cesarean deliveries	0.12	0.36
Number of abortions	0.11	0.37

Table 2 Religious aspects of pregnant women included in the study

	<i>n</i>	%
<i>How often do you attend church or other religious meetings?</i>		
1. More than once a week	37	23.1
2. Once a week	44	27.5
3. Two or three times a month	25	15.6
4. A few times a year	35	21.9
5. Once a year or less	14	8.8
6. Never	5	3.1
<i>How often do you spend time in private religious activities, such as prayer, meditation or Bible study?</i>		
1. More than once a day	24	15.0
2. Daily	74	46.3
3. Two or more times a week	19	11.9
4. Once a week	12	7.5
5. A few times a month	18	11.3
6. Rarely or never	13	8.1
<i>In general, how close do you feel to God?</i>		
1. Many times a day	4	2.5
2. Every day	29	18.1
3. Most days	79	49.4
4. Some days	48	30.0
	Mean	SD
Duke religion index intrinsic religiosity ^a	4.73	2.08
Positive religious coping	24.63	3.73
Negative religious coping	10.23	3.66
Daily spiritual experiences ^a	35.05	13.13
DASS depression	5.12	4.87
DASS anxiety	5.65	4.91
DASS stress	9.07	5.37
WHOQOL physical	14.15	2.20
WHOQOL psychological	14.26	2.09
WHOQOL social	15.50	3.33
WHOQOL environment	12.57	1.91
Practical social support	54.16	10.93
Emotional social support	32.91	6.54

^aInverted scores; DASS: Depression, Anxiety and Stress Scale, short 21-item version; WHOQOL: World health organization quality of life scale

were also high. Over 50% of the women reported attending religious services at least once a week and more than 60% stated that they prayed at least once a day.

For mental health, participants scored 5.12 (SD: 4.87) points for depressive symptoms, 5.65 (SD: 4.91) anxious symptoms and 9.07 (SD:5.37) for stress symptoms. Regarding depression, 15 (9.4%) cases were classified as mild, 12 (7.4%)

moderate and 1 (0.6%) severe; for anxiety, 16 (17.5%) were mild, 20 (12.5%) moderate and 16 (9.9%) severe; while for stress, 26 (16.3%) cases were mild and 6 (3.9%) moderate. With regard to quality of life, the women scored as follows for physical, psychological, social and environmental quality of life: 14.15 (SD: 2.20), 14.26 (SD: 2.09), 15.50 (SD: 3.33) and 12.57 (SD: 1.91), respectively (Table 2).

Even after adjusting for confounding variables, the assessment of association of the dimensions of religiosity and spirituality with quality of life and mental health (Tables 3 and 4), revealed that only negative religious/spiritual coping was associated with high levels of stress, depressive and anxious symptoms (Betas 0.207–0.321) and physical quality of life (Beta = 0.235). However, psychological

Table 3 Hierarchical Linear Regression of association between religiosity and spirituality and depressive, anxious and stress symptoms

	Unadjusted B	Model 1 B	Model 2 B	Model 3 B
<i>DASS depression^a</i>				
Organizational religiosity\$	−0.066	–	–	–
Nonorganizational religiosity\$	−0.003	–	–	–
Intrinsic religiosity\$	−0.011	–	–	–
Positive religious coping	−0.064	–	–	–
Negative religious coping	0.429***	0.370***	0.340***	0.321***
Daily Spiritual Experiences (Total)\$	0.049	–	–	–
Daily Spiritual Experiences (Question 16)	−0.126	–	–	–
<i>DASS anxiety^b</i>				
Organizational religiosity\$	−0.018	–	–	–
Nonorganizational religiosity\$	0.021	–	–	–
Intrinsic religiosity\$	−0.028	–	–	–
Positive religious coping	−0.108	–	–	–
Negative religious coping	0.330***	0.273***	0.256**	0.229**
Daily Spiritual Experiences (Total)\$	0.001	–	–	–
Daily Spiritual Experiences (Question 16)	0.006	–	–	–
<i>DASS stress^c</i>				
Organizational religiosity\$	0.001	–	–	–
Nonorganizational religiosity\$	−0.046	–	–	–
Intrinsic religiosity\$	−0.026	–	–	–
Positive religious coping	−0.090	–	–	–
Negative religious coping	0.327***	0.271***	0.246**	0.207*
Daily Spiritual Experiences (Total)\$	0.031	–	–	–
Daily Spiritual Experiences (Question 16)	−0.084	–	–	–

*** $p < 0.001$ ** $p > 0.01$ * $p < 0.05$; \$Inverted scores

Model 1: Age, education, marital status, race

Model 2: Gestational age in weeks, Number of Pregnancies, Number of Deliveries, Number of abortions

Model 3: Practical social support and emotional social support

Table 4 Hierarchical Linear Regression of association between religiosity and spirituality and quality of life

	Unadjusted B	Model 1 B	Model 2 B	Model 3 B
<i>WHOQOL Physical^a</i>				
Organizational religiosity\$	0.100	–	–	–
Nonorganizational religiosity\$	0.142	–	–	–
Intrinsic religiosity\$	0.026	–	–	–
Positive religious coping	–0.057	–	–	–
Negative religious coping	–0.321***	–0.289***	–0.267**	–0.235**
Daily Spiritual Experiences (Total)\$	–0.051	–	–	–
Daily Spiritual Experiences (Question 16)	0.057	–	–	–
<i>WHOQOL Psychological^b</i>				
Organizational religiosity\$	–0.069	–	–	–
Nonorganizational religiosity\$	–0.159**	–0.135 ^{NS}	–	–
Intrinsic religiosity\$	–0.244**	–0.233**	–0.220**	–0.186*
Positive religious coping	0.219**	0.226**	0.249**	0.227**
Negative religious coping	–0.328***	–0.324***	–0.310***	–0.274***
Daily Spiritual Experiences (Total)\$	–0.362***	–0.376***	–0.360***	–0.318***
Daily Spiritual Experiences (Question 16)	0.262***	0.246**	0.250***	0.203**
<i>WHOQOL Social^c</i>				
Organizational religiosity\$	–0.096	–	–	–
Nonorganizational religiosity\$	–0.127	–	–	–
Intrinsic religiosity\$	–0.140	–	–	–
Positive religious coping	0.115	–	–	–
Negative religious coping	–0.178*	–0.133 ^{NS}	–	–
Daily Spiritual Experiences (Total)\$	–0.185*	–0.217**	–0.196*	–0.169*
Daily Spiritual Experiences (Question 16)	0.198*	0.199*	0.178*	0.146 ^{NS}
<i>WHOQOL Environment^c</i>				
Organizational religiosity\$	0.134	–	–	–
Nonorganizational religiosity\$	–0.031	–	–	–
Intrinsic religiosity\$	0.021	–	–	–
Positive religious coping	–0.003	–	–	–
Negative religious coping	–0.167*	–0.133 ^{NS}	–	–
Daily Spiritual Experiences (Total)\$	–0.129	–	–	–
Daily Spiritual Experiences (Question 16)	0.115	–	–	–

*** $p > 0.001$ ** $p > 0.01$ * $p < 0.05$; \$Inverted scores

Model 1: Age, education, marital status, race

Model 2: Gestational age in weeks, Number of Pregnancies, Number of Deliveries, Number of abortions

Model 3: Practical social support and emotional social support

quality of life was associated with multiple dimensions, including intrinsic religiosity, positive and negative coping, and spirituality (Betas 0.186–0.318). Finally, quality of social life was associated only with spirituality (Beta = 0.169).

Discussion

The results of the present study showed that the pregnant women used their spiritual and religious beliefs to cope with aspects related to the pregnancy. Negative coping, but not positive coping, was associated with worse mental health and physical quality of life in the women at the first trimester of pregnancy. However, other measures of religiosity and spirituality were associated with psychological and social quality of life measures.

The religiosity and spirituality of the women assessed proved similar to that reported in the literature, showing a high level of religious involvement. A study performed in Brazil of 260 pregnant women showed that most had a religious affiliation and 60.8% declared that they practiced the religion of their faith. These results are similar to those of the present study, which found that around half of the pregnant women attended a religious service at least once a week (Silva et al. 2010). Wilkinson and Callister (2010) showed that most of the women believed that God could influence the results of their pregnancy and birth, trusting that God would help ensure successful births (Wilkinson and Callister 2010).

With regard to the association between religious and spiritual beliefs and health outcomes, the results of this study mirror those of another Brazilian study showing that the use of dysfunctional coping is less common, but had a greater influence on health outcomes than functional use. The study conducted by Vitorino et al. (2018) compared high and low-risk pregnancies and found that negative coping was not associated with depressive symptoms in the low-risk group, only in the high-risk group. This finding might be explained by the fact that low-risk pregnancies are associated with significantly fewer symptoms than women with high-risk pregnancy. Similar results were also found by Lucero et al. (2013) who assessed 178 couples having their first pregnancy and found that negative coping was associated with greater depressive and anxious symptoms, as well as lower satisfaction with the pregnancy, whereas positive religious and spiritual coping was associated with greater stress-related growth.

Although coping influenced the mental health of the pregnant women, other religiosity measures did not have the same strength of association and were not significant for depressive, anxious or stress symptoms. This finding corroborates the results of a North-American study (Mann et al. 2008) of 374 pregnant women which found that the level of religious involvement was not associated with depression, despite being associated with less guilt.

These findings might be attributed to the fact that religious frequency and other markers of religious and spiritual practices do not take into account the vision of God or of a Higher Power held by the pregnant woman. A good example of this hypothesis can be found in a North-American study (Mann et al. 2010) of 248 pregnant women which found that overall religiousness/spirituality was significantly associated with increased negative experiences of stress. Likewise, another North-American of 498 pregnant women (Athán et al. 2015) found that those women who held attributions of God as loving and knowable and residing within the self, as opposed to a supreme being who was judging, had better scores

on anxiety, depression, perceived stress and social support (Athar et al. 2015). Therefore, the vision of God and the use of coping appear to be more precise mechanisms for explaining this association than religious practice alone.

Another finding of this study was that daily spiritual experiences (as measured by the DSES) were associated with psychological and social quality of life, but not with other markers. A recent study assessing 377 pregnant women in Iran (Saffari et al. 2017) found a correlation of DSES scores with depression, anxiety and stress, a result not found in the present study. In another study employing the same scale, 167 Orthodox Jewish pregnant women (Marmon 2008) were assessed and found that DSES scores were associated with life satisfaction and positive affect. Cultural factors can be used in an attempt to explain these disparities between studies.

Finally, a study of 22 Iranian women showed that, from the cultural and religious perspective of these women, there was a physical and mental influence on the care provided to the neonate and on self-care during the pregnancy. Active and passive acquisition of information, internal inspiring messages and receiving effective support from people were important measures to help the mother care for her fetus. Conversely, inadequate physical conditions during pregnancy, difficult economic and social situations, and inadequate psychological and cognitive conditions represented barriers. Prenatal care involving a multidisciplinary team from a cultural, social and religious context were facilitators during pregnancy and for the care of the newborn (Heidari et al. 2015) and should be considered in prenatal care.

Understanding how religiosity and spirituality influence health and quality of life of Brazilian pregnant women can have a major impact on the prenatal care (depressive and anxious symptoms) of these patients. Addressing this subject in early pregnancy and furthering knowledge on the relationship between health and spirituality in pregnant women can allow more effective intervention in prenatal care, enhancing the quality of service and follow-up of these patients.

The present study has some limitations, which should be taken into account. The study had a cross-sectional design, whereas a longitudinal investigation measuring the first and final trimesters could help investigate the possible confounding effects and cause-effect relationship. Also, all patients involved in the study were from the same city in Brazil. Thus, care should be taken when generalizing these findings. Despite these limitations, few studies have investigated the association between religiosity and spirituality in health and quality of life of women in early pregnancy, a phase more subject to repercussions in mental health. Moreover, previous studies have employed religiosity measures, but failed to explore the association between the spiritual experiences and mental health of Brazilian pregnant women.

Conclusion

The findings of this study add to the scientific literature on religious and spiritual beliefs in pregnant women. The results showed that negative coping, but not positive coping, was associated with worse mental health and physical quality of life in women at the first trimester of pregnancy. Health professionals, obstetricians and obstetric nurses should be alert to the use of negative coping strategies in

their pregnant patients and seek to provide more integrative care. Future treatment options should consider these aspects of their patients and provide guidelines on how to approach them in clinical practice, identifying and referring to a religious leader, a chaplain or a psychologist.

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Compliance with Ethical Standards

Conflict of interest The authors declare no competing interests.

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