Spiritual Well-being of Pregnant Women in Association with Life Satisfaction and Healthy Behavior during Pregnancy

Dangyra Ruseckienė[1], Jūratė Tomkevičiūtė[2], John Fisher[3], Olga Riklikienė[1]
[1]Department of Nursing, Faculty of Nursing, Medical Academy, Lithuanian University of Health Sciences, Lithuania;
[2]Department of Physics, Mathematics and Biophysics, Faculty of Medicine, Medical Academy, Lithuanian University of Health Sciences, Lithuania;
[3]Department of Rural Health, Faculty of Medicine, Dentistry & Health Sciences, University of Melbourne, Australia

Keywords: *pregnant women, spiritual well-being, life satisfaction, healthy behavior.*

Summary. *Pregnancy and childbirth are regarded as a spiritual event itself, one of life's most important experiences for every woman. Pregnancy may be an opportunity to expand thinking or renew feelings about meaning in life and spiritual beliefs, which might provide greater protection for the mother and her baby.*

The aim of this study was to assess the spiritual well-being of pregnant women in association with life satisfaction and healthy life behavior habits during pregnancy.

Methods. The cross-sectional survey design was applied for this study that was carried out from November 2019 till September 2020. For the self-assessment of spiritual well-being, satisfaction with life and healthy behavior, 127 pregnant women were invited to participate and 110 of them completed the survey with the response rate of 86.6%. The complete questionnaires from 102 study participants were analyzed. Spiritual Well-being Scale SHALOM and Brief Multidimensional Life Satisfaction Scale (BMLSS), in addition to an authors' developed scale on healthy behavior habits change during pregnancy, were used. The Lithuanian Regional Committee on Bioethics issued permission to conduct the study.

Results. The results revealed that summative scores of the domain and the mean scores of each item on the Ideals dimension were significantly higher ($P < 0.001$) than the same domain and the same item on the Lived Experience dimension. The communal and personal domains of spiritual well-being in both dimensions of SHALOM had higher mean scores than the other two domains while the transcendental domain was found to be the lowest. On the BMLSS, 97.1% ($n = 99$) of pregnant women were satisfied with their life, and the others (2.9%; $n = 3$) were not. Women were most satisfied with their family life, friendships and overall life. The main changes in the lifestyle because of pregnancy were related to healthier nutrition, use of alcohol and physical activity.

Conclusions. Women at their second trimester of pregnancy are in good spiritual health and highly satisfied with their life although the direct relationship between these two research phenomena was weak or moderate. The subjective health of women makes a difference in their perception of spiritual well-being and life satisfaction. Pregnant women tend to make changes in their lifestyle because of pregnancy by mostly improving their nutrition, avoiding use of alcohol and limiting physical activity. It is important to encourage women to use balanced exercise programs and to maintain their social interactions as protective factors for good mental health during pregnancy.

Introduction

Spirituality is a multidimensional phenomenon, often understood as encompassing the existence and experience of inner feelings, values and beliefs, transcendence or sense of peace, and interconnectedness, including thoughts about the meaning of life (1, 2). Spirituality is important for individuals as it helps them to stay at peace with themselves, to live in harmony with the environment and to acknowledge a relationship with other people, God and/or other supernatural power (1). In the society like Lithuania, with a high proportion of people who consider themselves as religious, the term spirituality, however, in particular relates to a search for the sacred or divine through any life experience or route (3).

Overall sense and state of spirituality determine the spiritual and mental health of an individual. Spiritual health is a fundamental dimension of people's overall health and well-being together with the physical, mental, emotional, social, and vocational dimensions. From the theoretical perspective, spir-

Correspondence to Dangyra Ruseckienė, RM, MS, PhD (c), Department of Nursing, Faculty of Nursing, Medical Academy, Lithuanian University of Health Sciences, A. Mickevičiaus 9, LT-44307, Kaunas, Lithuania.
Email: dangyra.ruseckiene@lsmuni.lt

itual health/well-being is understood as a dynamic state of being that is expressed in the quality of relationships that each person has across one or more of four domains, namely with self, others, environment and/or with a transcendent other (4, 5).

Pregnancy and childbirth are regarded as a unique and sacred event, one of life's most important experiences for every woman. It is accompanied by psychological, social and physiological changes (6). Childbearing and motherhood may be ideal contexts for spiritual enrichment (7), in addition to the existing opinion that hospitalized, severely ill older patients potentially have spiritual needs (8) being mostly at the end-of-life stage in an oncology or palliative care unit.

Exploration of spiritual concerns and needs for spiritual support at the beginning of life must be equally important. Moreover, a woman and her partner or the whole family can benefit from spiritual care not only in situations when something goes wrong with a pregnancy or labor and maternal and fetal adverse outcomes appear (stillbirth, birth abnormalities, miscarriage, infertility, etc.) as such understanding narrows the impact of spirituality on the resource of coping and hope alone. Spirituality emerges not only from unordinary situations but from any childbirth as an "intensification of the human experience" (9, p. 8). It is clear, that spirituality is an essential element required to prepare a woman for childbirth during pregnancy (10) and to improve the pregnancy experience and care (11).

In pregnancy, spirituality should be considered as a protective and developmental factor that enhances personal and spiritual growth of pregnant women (12) and unites all other human dimensions (mind, body and spirit) (13). There is evidence that pregnant women with higher degrees of spiritual intelligence, which, according to Vaughan (2002; p. 19), "appears to connect the personal to the transpersonal and the self to spirit" (14), also tend to have lower degrees of depression, anxiety, and stress during their pregnancy period (15). An increased level of spiritual intelligence in pregnant women can lead to an increase in their happiness and reduce their fear of childbirth (16). Moreover, a pregnant woman's spiritual well-being may reduce anxiety and stress, while increasing planning-preparation, avoidance, and spiritual-positive copings (17). During labor, spirituality and faith become a source of inner strength and comfort (18).

Pregnant women experience a wide range of physical and psychological changes and are exposed to a new physiological state with specific requirements regarding lifestyle and health choices (nutrition, exercise, addictions, working and entertainment). Fostering faith, spirituality and spiritual relationships may help pregnant women to adapt to and overcome contemporary life challenges avoiding negative health outcomes (19, 20). Pregnancy may be an opportunity to expand thinking or renew feelings about meaning in life and spiritual beliefs, which might provide greater protection and resilience.

Another issue that arises with the importance of spiritual care for pregnant women is increasing age of women at their labor. Studies show that age of becoming mothers is increasing as they want to achieve goals in their personal life, reach the financial and social security and make a career before they get pregnant (21). This means that being more matured they already have an established health and behavior habits and beliefs, everyday life routine and other preferences that may be in contradiction with healthy pregnancy and child protective behavior. With the later pregnancy, medical risks for both the mother and the infant increase (22–24). In addition, the postponed childbearing is associated with psychological outcomes such as life satisfaction. Aasheim et al. have found that first-time mothers of advanced and very advanced age reported a slightly lower degree of satisfaction with life compared with the reference group of younger women (25).

It is crucial for healthcare providers to be supportive during pregnancy through exploring and understanding the meaning of spirituality for pregnant women. It is also necessary to determine how mothers describe their spiritual well-being, what are key personal concerns of spiritual well-being in pregnant women and how spiritual well-being is associated with other factors such as life satisfaction and changes in healthy behavior habits during pregnancy. With the fact that the importance of religion and spirituality in mothers' life should be understood well, we aimed to assess the spiritual well-being of pregnant women in association with life satisfaction and healthy life behavior habits during pregnancy.

Methods

Design. The cross-sectional survey design was applied for this study.

Organization of the Study. The study was carried out from November 2019 till September 2020. Two healthcare institutions that provide mother and child healthcare service were included. The first study site was a university hospital perinatology center with the tertiary level of healthcare service and the second one was maternity home at a clinical hospital with a secondary level of mother and child healthcare service. The researcher visited healthcare facilities in person and contacted the study respondents while they applied for regular outpatient consultation for pregnant women care.

The inclusion criteria were as follows: pregnant women of 18 years old and older; second term of the pregnancy that is 14–20 weeks; good knowledge of Lithuanian language. The questionnaires were completed at a healthcare facility, at home, or as the electronic form. The informed consent was provided in written form together with the questionnaire.

For the self-assessment of spiritual well-being, satisfaction with life and healthy behavior, a convenience sample of pregnant women was created. In total, 127 pregnant women were invited to participate and 110 of them completed the survey with the response rate of 86.6%. The complete questionnaires from 102 study participants (49 from the university study site and 53 from the clinical hospital study site) were analyzed.

Study Instruments. Lithuanian versions of two standardized tools – Spiritual Well-being Scale SHALOM (26) and Brief Multidimensional Life Satisfaction Scale (27) in addition to the authors' (D.R and O.R) developed scale on healthy behavior habits change during pregnancy – were applied. The set of clinical and sociodemographic characteristics was collected using an investigator-developed form.

The development of SHALOM was based on the Four Domains Model of Spiritual Health/Well-Being, which arose from detailed analysis of data from educators, with extensive supporting evidence from healthcare settings. The acronym SHALOM reveals two components: Spiritual Health Measure (SHM) and Life-Orientation Measure (LOM). The LOM elicits the 'ideals' that people have for spiritual health in four sets of relationships with self, others, environment, and/or God. The SHM asks people to reflect on "lived experience/how they feel each item reflects their personal experience most of the time" (26, p. 108). The Lithuanian version of SHALOM demonstrated adequate psychometric properties of the instrument (28). All items were scored with respect to self-ascribed importance on a 5-point scale (1–5) from very low to very high with total scores from 5 to 25 over the 5 items.

The Brief Multidimensional Life Satisfaction Scale (BMLSS) is a generic 8-item instrument that addresses four main dimensions of life: intrinsic (Myself, Overall life), social (Friendships, Family life), external (Workplace situation, Where I live) and perspective (Financial situation, Future prospects). Each item on the BMLSS was scored on a 7-point scale (0–6) from dissatisfaction to satisfaction. In this study, the 10-item version was employed with extra items on health situation and abilities to deal with daily life concerns. The BMLSS-10 scores summed up to a 100% level ("delighted"). Scores $\geqslant$ 50% indicated higher life satisfaction, while scores $<$ 50% indicated dissatisfaction. Internal consistency of the Lithuanian version of BMLSS-10 was found to be high in this study (alpha was 0.906).

The healthy behavior habits change in pregnant women was assessed by the authors' developed form with 11 items. The questions related to nutrition, smoking, alcohol consumption, physical activity and social interaction. The women were asked to report on the change, if any, in their lifestyle habits after they noticed their pregnancy. Three selective answers (*No, Partly* and *Yes*) were provided to answer a question about the change: *Did you experience a change in a particular habit after you noticed you are pregnant?* Two additional answers (*Cannot answer* and *Never had this habit*) were possible to select, if the question was not relevant for the respondent or difficult to answer.

Ethical Considerations. The Lithuanian Regional Committee on Bioethics issued permission to conduct the study (1 August, 2019, No. BE-2-77). In data management, the coding was applied to ensure the anonymity of the data and its protection. Participants had the freedom to decide about their participation in the study after the informed consent was provided. Those who agreed to fill in the questionnaires signed the inform consent form. The permission to use survey scales (SHALOM and BMLSS) was granted in writing by their authors.

Statistical Data Analysis. Statistical data analysis was performed by using IBM SPSS Statistics 27.0. Quantitative data were presented by sample means with standard deviations for normally distributed data and by medians with minimum and maximum values for not normally distributed data (or small samples). Qualitative nominal data were presented by frequencies and relative frequencies in percentage.

Comparing two independent groups, having normally distributed data, the Student *t* test for independent samples was used (for more than two groups, ANOVA was used). If normality in the data was absent (or small samples), the Mann-Whitney test was used (for more than two groups, the Kruskal-Wallis test was used). For the comparison of two related samples, the Wilcoxon test was used (normality in the data was absent).

The chi-square test was used to test the relation between qualitative nominal variables. The relation between quantitative variables was estimated by calculating the Spearman rank correlation coefficient (r) (normality in the data was absent). Absolute values of correlation coefficient $r \leqslant 0.29$ were regarded as weak correlation, those between 0.30 and 0.69 as moderate correlation, and those $\geqslant 0.70$ were regarded as strong correlation (29).

The relation between qualitative nominal and quantitative variables was estimated by calculating the Eta coefficient (η). A difference between compared groups or a relation between variables was considered to be statistically significant if $P < 0.05$.

Results

Description of the Sample. Pregnant women (n = 102) during their second term of pregnancy participated in the study. The age of the respondents ranged from 22 to 41 years with the average of 30.3 (SD 4.4). According to the median, the respondents were divided into two groups: those of < 30 years and those 30 and older. The majority had their pregnancy planned (88.2%) and were pregnant for the first or second time. Half (56.9%) of the pregnant women described their current health status as good. The majority of the women (78.4%) considered themselves as religious persons (Table 1).

Spiritual Well-being of Pregnant Women. The results revealed that summative scores of the domain and the mean scores of each item on the Ideals dimension were significantly higher ($P < 0.001$, nonparametric paired sample Wilcoxon test) than the same domain and the same item on the Lived Experience dimension. The communal and personal domains of spiritual well-being in both dimensions of SHALOM had higher mean scores than the other two domains while the transcendental domain was found to be the lowest (Table 2).

Dissonance of spiritual well-being is indicated by a difference in score of 1.0 or more between the mean values of Ideals and Lived Experience in any of the four domains of SWB and the total overall means (26). The results on all four domains of the SHALOM scale indicated limited spiritual dissonance in the personal domain (n = 20, 19.6%), the communal domain (n = 9, 8.8%) and the transcendental domain (n = 9, 8.8%). Spiritual dissonance in the environmental domain was relevant to one respondent (n = 1, 1.0%) (data not shown).

The analysis of the individual items revealed which ones showed the marked variation for spiritual dissonance and helped to identify key personal concerns (selected items) of spiritual well-being in pregnant women. The greatest significant differences between the mean values of Ideals and Lived Experience were found for the items of *Inner peace* (0.68) and *Joy in life* (0.52) in the personal domain ($P < 0.001$). In the transcendental domain, this difference in scores between the mean values of both SHALOM sections was greatest for the items *Prayer life* (0.29) and *Personal relationship with transcendence* (0.30) ($P < 0.001$). In the communal domain, key personal concern of spiritual well-being was expressed by the pregnant women for the item *Trust between individuals* (0.27) and in the environmental domain for the item *Sense of 'magic' in the environment* (0.26) ($P < 0.001$).

The scores on each domain of the spiritual well-being measure were compared in relation to sociodemographic characteristics of respondents. The results on both SHALOM dimensions revealed significant differences for the transcendental domain of spiritual well-being in accordance with a place of residence of women. It was determined that pregnant women with a rural area of residence rated the items of this domain on Ideals and Lived Experience dimensions higher than women with urban residence (respectively, $P = 0.005$ and $P = 0.029$). In addition, all four domains of spiritual well-being on both SHALOM dimensions were rated higher

Table 1. Sociodemographic characteristics of respondents (n = 102)

Variables		n	%
Age by years	< 30	49	48.0
	≥ 30	53	52.0
Marital status	Married	79	77.5
	Other	23	22.5
Place of residence	Urban	68	66.7
	Rural	34	33.3
Education	Higher	79	77.5
	Other	23	22.5
Religiosity	Religious	80	78.4
	Non-religious/undecided	22	21.6
Acceptance of pregnancy	Planned	90	88.2
	Unplanned	12	11.8
Number of pregnancies	1	46	45.1
	2	40	39.2
	≥ 3	16	15.7
Current health	Very good	29	28.4
	Good	58	56.9
	Bad/Satisfactory	15	14.7

Table 2. Summary statistics for each item/domain of the Ideals and Lived Experience dimensions of SHALOM

Domain/Item	SHALOM-Ideals			SHALOM-Lived Experience		
	n	Mean (SD)	Median (Minimum–Maximum)	n	Mean (SD)	Median (Minimum–Maximum)
Personal	102	22.33 (2.27)	23 (14–25)	102	20.24 (2.90)	20 (13–25)
Sense of identity	102	3.75 (0.95)	4 (1–5)	102	3.44 (0.96)	3 (1–5)
Self-awareness	102	4.44 (0.66)	5 (3–5)	102	4.22 (0.69)	4 (3–5)
Joy in life	102	4.8 (0.40)	5 (3–5)	102	4.30 (0.70)	4 (3–5)
Inner peace	102	4.66 (0.65)	5 (1–5)	102	3.97 (0.93)	4 (1–5)
Meaning in life	102	4.67 (0.66)	5 (1–5)	102	4.30 (0.85)	5 (1–5)
Communal	102	22.52 (2.29)	23 (14–25)	102	21.26 (2.78)	22 (13–25)
Love for other people	102	4.43 (0.71)	5 (2–5)	102	4.24 (0.74)	4 (2–5)
Forgiveness toward others	102	4.11 (0.80)	4 (1–5)	102	3.84 (0.82)	4 (1–5)
Trust between individuals	102	4.81 (0.43)	5 (3–5)	102	4.54 (0.64)	5 (3–5)
Respect for others	102	4.67 (0.68)	5 (1–5)	102	4.41 (0.76)	5 (1–5)
Kindness toward other people	102	4.50 (0.67)	5 (3–5)	102	4.24 (0.81)	4 (2–5)
Environmental	102	19.56 (3.09)	19.5 (12–25)	102	18.68 (3.44)	19 (10–25)
Connection with nature	102	4.17 (0.80)	4 (2–5)	102	3.97 (0.95)	4 (2–5)
Awe at a breath-taking view	102	3.47 (0.97)	3.5 (1–5)	102	3.26 (1.11)	3 (1–5)
Oneness with nature	102	3.85 (0.92)	4 (1–5)	102	3.64 (1.02)	4 (1–5)
Harmony with the environment	102	4.15 (0.80)	4 (2–5)	102	3.93 (0.88)	4 (1–5)
Sense of 'magic' in the environment	102	3.92 (1.02)	4 (1–5)	102	3.66 (1.07)	4 (1–5)
Transcendental	101	15.30 (5.71)	15 (5–25)	102	13.98 (5.66)	14.0 (5–25)
Personal relationship with transcendent	101	3.35 (1.24)	3.5 (1–5)	101	3.05 (1.23)	3 (1–5)
Worship of the transcendent	101	2.62 (1.18)	3 (1–5)	101	2.43 (1.17)	2 (1–5)
Oneness with transcendent	101	3.11 (1.33)	3 (1–5)	101	2.84 (1.27)	3 (1–5)
Peace with transcendent	101	3.20 (1.27)	3 (1–5)	101	2.95 (1.25)	3 (1–5)
Prayer life	101	3.00 (1.25)	3 (1–5)	101	2.71 (1.28	3 (1–5)
Total	101	79.77 (10.16)	80 (50–100)	102	74.16 (11.47)	75 (44–100)

by religious women in comparison with non-religious and those undecided. Pregnant women who rated their subjective health as very good, demonstrated higher spiritual well-being on the environmental domain of the Ideals dimension in relation to those women who reported good or bad/satisfactory subjective health. On Shalom Lived Experience dimension, women with very good and good subjective health assessed their spiritual well-being on the personal and environmental domains better than those with bad or satisfactory subjective health (Table 3).

There were no statistically significant differences among the scores of spiritual well-being in accordance with the age, education level and family status of pregnant women, number of pregnancies and its planning.

Satisfaction with Life of Pregnant Women. The life satisfaction sum score (0–100) was 77.65 (SD 13.87) (Md 80; min 30, max 100). In accordance with the BMLSS interpretation, we divided the study sample into two groups (satisfied and dissatisfied) where scores $\geqslant$ 50% indicated higher life satisfaction, while scores $<$ 50% indicated dissatisfaction. The results revealed that 97.1% (n = 99) of pregnant women were satisfied with their life and the others (2.9%; n = 3) were not. Women were most satisfied with their family life, friendships and overall life (mean scores (0–100) were 88.89 (SD 14.71), 83.82 (SD 13.57) and 83.01 (SD 15.55), respectively). However, the respondents expressed the lowest satisfaction with their work (66.50 (SD 28.39)), financial situation (73.69 (SD 19.12)) and themselves (74.02 (SD 18.85)) (Table 4).

Life satisfaction of pregnant women was not related to any of their sociodemographic characteristics but to subjective health. The life satisfaction sum score of women who rated their subjective health as very good was significantly higher than that of women with good or bad/satisfactory subjective health (P = 0.002) (Fig. 1).

Correlation analysis revealed that satisfaction

Table 3. Comparison of SHALOM Ideals and SHALOM Lived Experience between sociodemographic characteristics and subjective health (n = 102)

Variables	SHALOM Ideals			
	Personal	Communal	Environmental	Transcendental
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Place of Residence				
Urban	22.28 (2.09)	22.51 (2.19)	19.59 (3.02)	14.21 (5.83)
Rural	22.44 (2.62)	22.53 (2.50)	19.50 (3.27)	17.55 (4.78)
P (*t* test)	0.736	0.976	0.893	0.005
Religiosity				
Religious	22.71 (1.96)	22.88 (1.98)	20.11 (2.86)	17.08 (4.55)
Non-religious / undecided	20.95 (2.77)	21.23 (2.86)	17.55 (3.11)	8.52 (4.49)
P (*t* test)	0.001	0.017	< 0.001	< 0.001
Subjective health				
Very good	22.38 (2.21)	22.93 (1.73)	20.86 (3.16)	15.97 (5.99)
Good	22.38 (2.45)	22.31 (2.57)	19.14 (2.95)*	15.16 (5.54)
Bad / Satisfactory	22.07 (1.67)	22.53 (2.07)	18.67 (2.87)	14.53 (6.02)
P (ANOVA)	0.887	0.494	0.022	0.709
Variables	SHALOM Lived Experience			
	Personal	Communal	Environmental	Transcendental
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Place of Residence				
Urban	20.22 (2.83)	21.32 (2.73)	18.76 (3.35)	13.12 (5.77)
Region/District	20.26 (3.07)	21.14 (2.88)	18.50 (3.68)	15.71 (5.08)
P (t test)	0.943	0.764	0.716	0.029
Religiosity				
Religious	20.86 (2.64)	21.76 (2.49)	19.28 (3.21)	15.75 (4.86)
Non-religious	17.95 (2.70)	19.45 (3.05)	16.50 (3.46)	7.55 (3.14)
P (t test)	< 0.001	< 0.001	< 0.001	< 0.001
Subjective health				
Very good	20.93 (2.67)	21.90 (2.51)	19.90 (3.49)	14.41 (6.24)
Good	20.47 (2.99)	21.14 (2.90)	18.41 (3.35)	14.14 (5.49)
Bad / Satisfactory	18.00 (1.85)*°	20.53 (2.67)	17.33 (3.20)°	12.53 (5.29)
P (ANOVA)	0.003	0.266	0.042	0.555

* $P < 0.05$ significant difference compared to "Very good" (Tukey post hoc comparison).
° $P < 0.05$ significant difference compared to "Good" (Tukey post hoc comparison).

with life was moderately positively related to the overall spiritual well-being on the lived experience dimension (r = 0.354, $P < 0.001$). According to the spiritual well-being domains, satisfaction with life significantly positively correlated with the personal and communal domains in the Lived Experience dimension (r = 0.479, $P < 0.001$ and r = 0.379, $P < 0.001$, respectively) and with the environmental domain in both dimensions of SHALOM measure (r = 0.224, $P = 0.024$, on Ideals, and r = 0.305, $P = 0.002$, on Lived Experience respectively); all correlations were weak or moderate (data not shown).

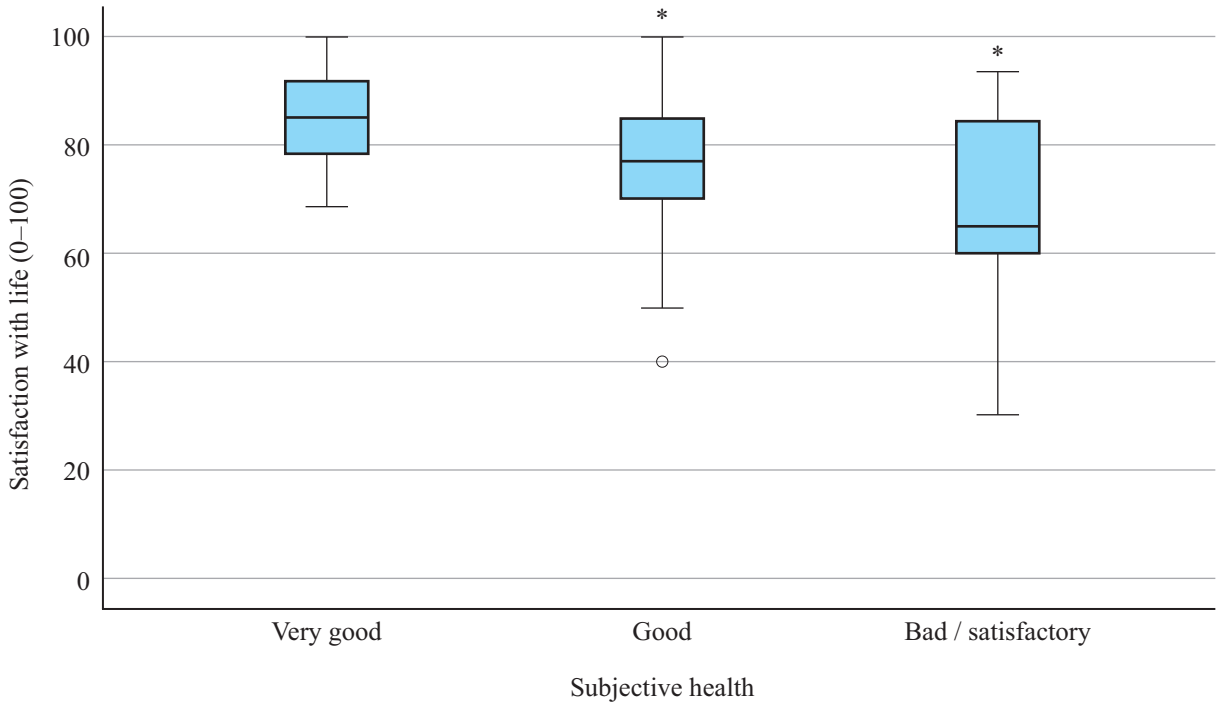
Healthy Life Behavior of Pregnant Women. To assess the changes in habits of healthy lifestyle because of pregnancy, the authors provided 11 questions about social life and relationships, nutrition and habits (smoking, alcohol consumption, use of drugs and psychotropic substances), and physical activity.

The main changes in the lifestyle because of pregnancy were related to healthier nutrition, use of alcohol and physical activity. Women indicated that they tried to eat healthier food and use vitamins (58.4% responded with *yes* and 39.6% with *partly*) and quit drinking alcohol (98.5% responded with

Table 4. Descriptive statistics of satisfaction with life score (0–100) and distribution of respondents in accordance with the satisfaction with life (n = 102)

Satisfaction with Life*			
Items	Mean (SD)	Satisfied (BMLSS Sum Score ⩾ 50%)	Dissatisfied (BMLSS Sum Score < 50%)
		% (n)	
Family life	88.89 (14.71)	99.0 (101)	1.0 (1)
Friendships	83.82 (13.57)	100.0 (102)	0.0 (0)
Work / Working place	66.50 (28.39)	86.3 (88)	13.7 (14)
Myself	74.02 (18.85)	94.1 (96)	5.9 (6)
Where I live	80.23 (20.94)	94.1 (96)	5.9 (6)
Overall life	83.01 (15.55)	99.0 (101)	1.0 (1)
Financial situation	73.69 (19.12)	95.1 (97)	4.9 (5)
Prospects	76.96 (17.56)	96.1 (98)	3.9 (4)
Health situations	74.51 (18.57)	94.1 (96)	5.9 (6)
Abilities to cope with life concerns	74.84 (17.03)	95.1 (97)	4.9 (5)
Total	77.65 (13.87)	97.1 (99)	2.9 (3)

***** *The Satisfaction with Life sum score refers to a 100% level.*



* $P < 0.05$ significant difference compared to "Very good" (Kruskal-Wallis pairwise comparison with Bonferroni correction)

Fig. 1. The comparison of satisfaction with life scores in subjective health ratings in pregnant women

yes). Physical activity during pregnancy was totally or partly quitted by 59.5% of the participants. In relation to social life, 74.8% of the pregnant women limited the entertainment at all or to some extent, and 52.0% reported spending less time with friends. During the pregnancy, some women were successful in finding new friends among future mothers and established relationships with other mothers (Table 5). In general, harmful habits or addictions were less relevant to the respondents as 97.1% never used drugs or psychotropic substances, 74.5% never smoked and 34.3% never consumed alcohol (data not shown).

Spiritual well-being and satisfaction with life scores were compared in two groups of the respondents: in a group of those who have made some changes for healthy life (combined responses *Yes* and *Partly*) and those who did not (response *No*). The results revealed several significant differences (Mann-Whitney U test). The scores for transcendental domain on Ideals and Lived Experience were higher for those pregnant women who indicated they had given up entertainment ($P = 0.017$ and $P = 0.026$, respectively). Those women who answered positively about finding a new friend among future mothers reported higher spiritual well-being on the communal and environmental domain of the Lived Experience dimension ($P = 0.030$ and $P = 0.046$, respectively) and a higher life satisfaction ($P = 0.044$ and $P = 0.026$).

The strength of association between healthy behavior items and satisfaction with life, overall and each item/domain of the Ideals and Lived Experience dimensions of SHALOM was estimated by calculating the Eta coefficient. The coefficient shows which healthy behavior habit may change the satisfaction with life and spiritual well-being most. Results revealed that satisfaction with life had the strongest relationship with the women's attempts to eat healthier food and take vitamins as well as stopping the work. The personal domain of lived spiritual well-being had the strongest association with the women's attempts to improve the dietary choices. Spiritual well-being on both dimensions, like the transcendental spiritual well-being domain, had the strongest link with giving up entertainment. The environmental domain of spiritual well-being was mostly associated with spending less time with friends while the communal domain of spiritual well-being was mostly related to quitting sport activities and work (Table 6).

Discussion

During recent years, integration of spirituality in the health care of patients and healthy persons has been discussed a lot. Spiritual interventions in perinatal care include presence, active listening, helping each woman articulate her feelings about her birth experience, and sharing that experience (30). However, sharing these valuable experiences might lead "to renewal and reconnection with a woman's deepest self" and this would lead to a safe and healthy birth (31, p. 168).

Childbirth and motherhood are ideal events to acknowledge the spiritual dimension of women's lives (7). Buden believes that for some women the experience of giving birth has the potential to awaken spirituality and to create an opportunity for self-transcendence (32). The aim of this study was to assess spiritual well-being of pregnant women at their second trimester of pregnancy and, further, to determine the relationships of spiritual well-being with their life satisfaction and healthy life behavior habits. We hypothesized that spiritual harmony may

Table 5. The subjective assessment of healthy behavior in pregnant women

Healthy behavior items	% (n) of answers		
	Yes	Partly	No
Gave up entertainment	7.4 (7)	67.4 (64)	25.3 (24)
Quit drinking alcohol	98.5 (66)	1.5 (1)	0.0 (0)
Try to eat healthier food and take vitamins	58.4 (59)	39.6 (40)	2.0 (2)
Quit smoking or significantly reduced	100.0 (25)	0.0 (0)	0.0 (0)
Quit use of drugs and psychotropic substances	100.0 (3)	0.0 (0)	0.0 (0)
Spend less time with friends	17.3 (17)	34.7 (34)	48.0 (47)
Stopped working	5.4 (5)	7.5 (7)	87.1 (81)
Planning the future	72.6 (69)	24.2 (23)	3.2 (3)
Quit sports	24.6 (17)	44.9 (31)	30.4 (21)
Found a new friend among future mothers	4.1 (4)	21.4 (21)	74.5 (73)
Have established a new relationship with other mothers	10.3 (10)	21.6 (21)	68.0 (66)

Table 6. Eta coefficients between healthy behavior items and satisfaction with life, overall and each item/domain of the Ideals and Lived Experience dimensions of SHALOM.

Healthy behavior items	BMLSS	Overall SHALOM – ideals	Overall SHALOM – lived	Pers_ ideals	Pers _ lived	Comm_ ideals	Comm_ lived	Envir_ ideals	Envir_ lived	Trans_ ideals	Trans_ lived
Gave up entertainment	0.052	0.224	0.219	0.120	0.117	0.113	0.149	0.116	0.120	0.255	0.256
Quit drinking alcohol	0.085	0.050	0.110	0.009	0.009	0.020	0.148	0.065	0.056	0.108	0.168
Try to eat healthier food and take vitamins	0.271	0.103	0.269	0.145	0.446	0.069	0.189	0.091	0.157	0.106	0.136
Quit / reduced smoking*	–	–	–	–	–	–	–	–	–	–	–
Quit use of drugs and psychotropic substances*	–	–	–	–	–	–	–	–	–	–	–
Spend less time with friends	0.209	0.073	0.191	0.087	0.115	0.135	0.111	0.221	0.278	0.068	0.105
Stopped working	0.271	0.169	0.204	0.162	0.133	0.198	0.229	0.117	0.222	0.120	0.127
Planning the future	0.242	0.141	0.110	0.138	0.108	0.173	0.039	0.112	0.168	0.102	0.094
Quit sports	0.186	0.109	0.163	0.119	0.170	0.235	0.180	0.108	0.148	0.048	0.069
Found a new friend among future mothers	0.215	0.068	0.162	0.076	0.097	0.109	0.225	0.150	0.195	0.068	0.096
Have established a new relationship with other mothers	0.111	0.118	0.204	0.015	0.141	0.129	0.169	0.064	0.113	0.138	0.199

*Free spaces at two items indicate constant answers for the healthy behavior items; thus, no statistics were computed.

serve as a strong protective factor for a woman during pregnancy, especially helping her to stay positive in life and demonstrate the protective healthy behavior for herself and the baby.

Spiritual well-being in the communal and personal domains was the highest showing that pregnant women are in good relationship with themselves and feel connected with others from their family and community. Mostly their expectations and lived experience relating to spiritual life overlap, creating more significant dissonance in the personal domain only (for one fifth of respondents). Women being pregnant would expect higher inner peace and more joy in life even if they know that pregnancy often changes their normal life and limits them with socializing and usual work/study activity. Negative physical and psychological symptoms that are prevalent in mid-term of pregnancy can also influence their mood and perception of spiritual well-being. The results of this study also confirmed the positive relationship between subjective health and spiritual well-being in the personal and environmental domains.

Despite the fact that two-thirds of the respondents rated themselves as religious persons, the transcendental spiritual well-being was the least important and relevant domain to pregnant women. The relationship with the sacred was more important for religious women and those with rural residence. The characteristics of pregnancy (i.e., number of pregnancies, planning of it) did not matter for women's spiritual health but we suggest that larger samples are needed for more reliable results in this matter.

An increasing level of spirituality in life can help to overcome inconsistencies in life and increases people's satisfaction with life (33). Assuming that pregnancy and childbirth, apart from being a deeply meaningful and pleasant event, are among the most stressful life stages in a woman's life (25), we found it of great importance to assess the life satisfaction of pregnant women and its association with spiritual health. The vast majority of women expressed being satisfied with their life. The results echo nurses' and nursing students' (i.e., healthy people's) life satisfaction levels. However, they were very much different from those of mothers with neurologically ill children or non-terminally ill cancer patients' life satisfaction tested in previous Lithuanian studies (34–36).

In addition, satisfaction with life in pregnant women was positively related to their subjective health and to a weak or moderate extent correlated with the spiritual well-being. Satisfaction with life as a value-based orientation is an important positive dimension of human well-being and is associated with the spiritual belief system of individuals. Pregnant women were most satisfied with their family life and friendship and these results coincide with those from other studies that positive interpersonal relationship and favorable family environment is supportive for women's mental health and psychological well-being (37, 38).

The mother's experiences regarding spirituality can make her more responsible toward taking care of the spiritual being within her womb (31). Normally, women are committed to serious change of their behavior and habits while pregnant. In this study, we also found that women were inclined to use healthier food and vitamins, to stop working and quit consuming alcohol at all. The positive fact was that during pregnancy women were still socializing by making friends with future mothers and establishing new relationships with other mothers. However, these social interactions might be even more intensive as social support and group interaction are effective protective factors from prenatal stress, depression and anxiety (39). We also noted that women from our study were very much resistant to addictions or other harmful habits even before pregnancy. To interpret this, we would rely on the rather high level of religiosity of our sample and the results of other studies where religiosity in some pregnant women has been associated with positive maternal health behaviors (40–42).

To promote healthy behaviors during pregnancy, it is important to investigate the factors that influence women's health-promoting behavior (43). We found that satisfaction with life was associated with the improvements in women's dietary choices and majorly by quitting work for possible maternity leave. Women who were more likely to give up entertainment during pregnancy reported higher spiritual well-being on the transcendental domain. This study also confirmed the association of quitting sport activities and work with the communal domain of spiritual well-being. The evidence supports positive relationship between physical activity and spiritual health as regular physical activity and spiritual practices lead to better a health status of an individual (44). We suggest that women should be more informed about physical activity during pregnancy to balance this with their health and well-being. A moderate intensity physical activity during pregnancy has many benefits for the health of a woman and a fetus (45–47). Moreover, balanced exercise programs may be important for mental health and spirituality, reconnecting a woman to her social environment (44).

Conclusions

Women at their second trimester of pregnancy are in good spiritual health and highly satisfied with their life although the direct relationship between these two research phenomena was weak or moder-

ate. The subjective health of women makes a difference in their perception of spiritual well-being and life satisfaction and both of these can temporarily be declined because of physiological and psychological concerns in pregnancy. Pregnant women tend to make changes in their lifestyle because of pregnancy by mostly improving their nutrition, avoiding use of alcohol and limiting physical activity. In providing instructions and support for pregnant women, it is important to encourage them to use balanced exercise programs and maintain their social interactions as protective factors for good mental health during pregnancy.

Statement of Conflict of Interest

The authors state no conflict of interest.

References

1. Fisher J. The four domains model: Connecting spirituality, health and well-being. Religions. 2011;2(1):17–28. doi: 10.3390/rel2010017
2. Balboni T, Paulk M, Balboni M, Phelps A, Loggers E, Wright A et al. Provision of spiritual care to patients with advanced cancer: Associations with medical care and quality of life near death. Journal of Clinical Oncology. 2010;28(3):445–452. doi: 10.1200/JCO.2009.24.8005
3. Mytko J, Knight S. Body, mind and spirit: towards the integration of religiosity and spirituality in cancer quality of life research. Psycho-Oncology. 1999;8(5):439–450. doi: 10.1002/(sici)1099-1611(199909/10)8:5<439::aid-pon421>3.3.co;2-c
4. Fisher J. Staff's and family members' spiritual well-being in relation to help for residents with dementia. Journal of Nursing Education and Practice. 2012;2(4). doi: 10.5430/jnep.v2n4p77
5. Fisher JW. Validation and utilisation of the Spiritual Well-Being Questionnaire: SHALOM. J Relig Health 2021;60(5):3694–715. doi: 10.1007/s10943-021-01401-8
6. Kazemi F, Nahidi F, Kariman N. Disorders affecting quality of life during pregnancy: A qualitative atudy. J Clin Diagn Res. 2017;11(4):QC06–QC10. doi: 10.7860/JCDR/2017/23703.9560
7. Callister LC, Khalaf I. Spirituality in childbearing women. J Perinat Educ. 2010 Spring;19(2):16–24. doi: 10.1624/105812410X495514
8. Galek K, Flannelly KJ, Vane A, Galek RM. Assessing a patient's spiritual needs: a comprehensive instrument. Holist Nurs Pract. 2005;19(2):62–9. doi: 10.1097/00004650-200503000-00006
9. Bélanger-Lévesque M-N, Dumas M, Blouin S, Pasquier J-C. "That was intense!" Spirituality during childbirth: a mixed-method comparative study of mothers' and fathers' experiences in a public hospital. BMC Pregnancy Childbirth. 2016;16(1). doi: 10.1186/s12884-016-1072-z
10. England P, Horowitz R. Birthing from within: An extra-ordinary guide to childbirth preparation. Partera Press; 1998.
11. Saffari M, Amini H, Sheykh-Oliya Z, Pakpour AH, Koenig HG. Validation of the Persian version of the Daily Spiritual Experiences Scale (DSES) in pregnant women: A proper tool to assess spirituality related to mental health. J Relig Health. 2017;56(6):2222–36. doi: 10.1007/s10943-017-0393-1
12. Crowther S, Hall J. Spirituality and spiritual care in and around childbirth. Women Birth. 2015;28(2):173–8. doi: 10.1016/j.wombi.2015.01.001
13. Meraviglia MG. Critical analysis of spirituality and its empirical indicators. Prayer and meaning in life: Prayer and meaning in life. J Holist Nurs. 1999;17(1):18–33. doi: 10.1177/089801019901700103
14. Vaughan F. What is spiritual intelligence? J Humanist Psychol. 2002;42(2):16–33. doi: 10.1177/0022167802422003
15. Khodakarami B, Golalizadeh Bibalan F, Soltani F, Soltanian A, Mohagheghi H. Prognostic Role of spiritual intelligence components in pregnant women's depression, anxiety, and stress. Health Spiritual Med Ethics. 2016;3(2):16–23. URL: http://jhsme.muq.ac.ir/article-1-92-fa.html
16. Abdollahpour S, Khosravi A. Relationship between spiritual intelligence with happiness and fear of childbirth in Iranian pregnant women. Iranian Journal of Nursing and Midwifery Research. 2018;23(1):45. doi: 10.4103/ijnmr.IJNMR_39_16
17. Chehrazi M, Faramarzi M, Abdollahi S, Esfandiari M, Shafie rizi S. Health promotion behaviours of pregnant women and spiritual well-being: Mediatory role of pregnancy stress, anxiety and coping ways. Nursing Open. 2021;8(6):3558–3565. doi: 10.1002/nop2.905
18. Adams ED, Bianchi AL. A practical approach to labor support. J Obstet Gynecol Neonatal Nurs. 2008;37(1):106–15. doi: 10.1111/j.1552-6909.2007.00213.x
19. Breen GV, Price S, Lake M. Spirituality and high-risk pregnancy: Another aspect of patient care. AWHONN Lifelines. 2006 Dec-2007 Jan;10(6):466–73. doi: 10.1111/j.1552-6356.2006.00095.x.
20. Jesse DE, Schoneboom C, Blanchard A. The effect of faith or spirituality in pregnancy: A content analysis: A content analysis. J Holist Nurs. 2007;25(3):151–8. doi: 10.1177/0898010106293593
21. Schytt E, Nilsen ABV, Bernhardt E. Still childless at the age of 28 to 40 years: A cross-sectional study of Swedish women's and men's reproductive intentions. Sex Reprod Health. 2014;5(1):23–9. doi: 10.1016/j.srhc.2013.11.001
22. Reproductive ageing. London: RCOG Press; Scientific Impact Paper No. 24. 2009. URL: https://www.rcog.org.uk/globalassets/documents/guidelines/scientific-impact-papers/sip_24.pdf
23. Schmidt L, Sobotka T, Bentzen JG, Nyboe Andersen A, ESHRE Reproduction and Society Task Force. Demographic and medical consequences of the postponement of parenthood. Hum Reprod Update. 2012;18(1):29–43. doi: 10.1093/humupd/dmr040
24. Joseph KS, Allen AC, Dodds L, Turner LA, Scott H, Liston R. The perinatal effects of delayed childbearing. Obstet Gynecol. 2005;105(6):1410–8. doi: 10.1097/01.AOG.0000163256.83313.36
25. Aasheim V, Waldenström U, Rasmussen S, Espehaug B, Schytt E. Satisfaction with life during pregnancy and early motherhood in first-time mothers of advanced age: a population-based longitudinal study. BMC Pregnancy Childbirth. 2014;14:86. doi: 10.1186/1471-2393-14-86
26. Fisher J. Development and application of a spiritual well-being questionnaire called SHALOM. Religions (Basel). 2010;1(1):105–21. doi: 10.3390/rel1010105
27. Büssing A, Fischer J, Haller A, Heusser P, Ostermann T, Matthiessen PF. Validation of the brief multidimensional life satisfaction scale in patients with chronic diseases. Eur J Med Res. 2009;14(4):171. doi: 10.1186/2047-783x-14-4-171
28. Riklikiene O, Kaseliene S, Fisher J. Translation and validation of spiritual well-being questionnaire SHALOM in Lithuanian language, culture and health care practice. Religions (Basel). 2018;9(5):156. doi: 10.3390/rel9050156
29. Ratner B. The correlation coefficient: Its values range between +1/−1, or do they?. Journal of Targeting, Measurement and Analysis for Marketing. 2009;17(2):139–142. doi: 10.1057/JT.2009.5
30. Eldridge CR. Meeting your patients' spiritual needs. American Nurse Today. 2007;2(10):51–2.
31. Manookian A, Tajvidi M, Dehghan-Nayeri N. Inner voice of pregnant women: A qualitative study. Iran J Nurs Mid-

wifery Res [Internet]. 2019;24(3):167–71. Available from: http://dx.doi.org/10.4103/ijnmr.IJNMR_105_18
32. Budin WC. Birth and death: opportunities for self-transcendence. J Perinat Educ [Internet]. 2001 Spring;10(2):38–42. Available from: http://dx.doi.org/10.1624/105812401X88192
33. Heydari A, Meshkinyazd A, Soudmand P. The effect of spiritual intelligence training on job satisfaction of psychiatric nurses. Iran J Psychiatry. 2017;12(2):128–33.
34. Akelė R. Associations between spiritual well–being, satisfaction with life and spiritual care competencies among hospital nurses and universitety nursing students. Master's Thesis. LSMU, 2020. URL: https://www.lsmu.lt/cris/bitstream/20.500.12512/102007/1/AKEL%C4%96%20BAIGIAMASIS.pdf
35. Riklikienė O, Tomkevičiūtė J, Spirgienė L, Valiulienė Ž, Büssing A. Spiritual needs and their association with indicators of quality of life among non-terminally ill cancer patients: Cross-sectional survey. Eur J Oncol Nurs. 2020 Feb;44:101681. doi: 10.1016/j.ejon.2019.101681.
36. Büssing A, Riklikienė O. Spiritual needs of parents with health-affected children. Spiritual Needs in Research and Practice. Springer; 2021, p. 351–367. URL: https://link.springer.com/chapter/10.1007/978-3-030-70139-0_25
37. Deb S, Thomas S, Bose A, Aswathi T. Happiness, meaning, and satisfaction in life as perceived by Indian university students and their association with spirituality. J Relig Health. 2020 Oct;59(5):2469–2485. doi: 10.1007/s10943-019-00806-w.
38. Lee S, Jirásek I. Associations between screen-based activity, spiritual well-being, and life satisfaction among adolescents. J Relig Health. 2019 Jun;58(3):795–804. doi: 10.1007/s10943-017-0429-6.
39. Tang X, Lu Z, Hu D, Zhong X. Influencing factors for prenatal stress, anxiety and depression in early pregnancy among women in Chongqing, China. J Affect Disord [Internet]. 2019;253:292–302. Available from: http://dx.doi.org/10.1016/j.jad.2019.05.003
40. Burdette AM, Weeks J, Hill TD, Eberstein IW. Maternal religious attendance and low birth weight. Soc Sci Med [Internet]. 2012;74(12):1961–7. Available from: http://dx.doi.org/10.1016/j.socscimed.2012.02.021
41. Mann JR, McKeown RE, Bacon J, Vesselinov R, Bush F. Religiosity, spirituality, and tobacco use by pregnant women. South Med J [Internet]. 2007;100(9):867–72. Available from: http://dx.doi.org/10.1097/SMJ.0b013e318137a422
42. Page RL, Ellison CG, Lee J. Does religiosity affect health risk behaviors in pregnant and postpartum women? Matern Child Health J [Internet]. 2009;13(5):621–32. Available from: http://dx.doi.org/10.1007/s10995-008-0394-5
43. Cyphers NA, Clements AD, Lindseth G. The relationship between religiosity and health-promoting behaviors in pregnant women. West J Nurs Res [Internet]. 2017;39(11):1429–46. Available from: http://dx.doi.org/10.1177/0193945916679623
44. Rabiepoor S, Sadeghi E, Sayyadi H. Spiritual health and physical activity among Iranian pregnant women. J Relig Health [Internet]. 2019;58(2):506–15. Available from: http://dx.doi.org/10.1007/s10943-017-0487-9
45. Melzer K, Schutz Y, Boulvain M, Kayser B. Physical activity and pregnancy: cardiovascular adaptations, recommendations and pregnancy outcomes: Cardiovascular adaptations, recommendations and pregnancy outcomes. Sports Med [Internet]. 2010;40(6):493–507. Available from: http://dx.doi.org/10.2165/11532290-000000000-00000
46. Tobias DK, Zhang C, van Dam RM, Bowers K, Hu FB. Physical activity before and during pregnancy and risk of gestational diabetes mellitus: a meta-analysis. Diabetes Care [Internet]. 2011;34(1):223–9. Available from: http://dx.doi.org/10.2337/dc10-1368
47. Weir Z, Bush J, Robson SC, McParlin C, Rankin J, Bell R. Physical activity in pregnancy: a qualitative study of the beliefs of overweight and obese pregnant women. BMC Pregnancy Childbirth [Internet]. 2010;10(1):18. Available from: http://dx.doi.org/10.1186/1471-2393-10-18

Received October 2021
Accepted December 2021