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Evaluation of Spiritual Health and Depression in Women with Normal and High-Risk Pregnancies during the Covid-19 Crisis

Nazari M[1*]

Master of Occupational Health Engineering, Shahid Sadoughi University of Medical Sciences, Iran

***Corresponding author:**

Mahsa Nazari,
Master of Occupational Health Engineering, Shahid Sadoughi University of Medical Sciences, Iran,
E-mail: nazarimahsa95@yahoo.com

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Keywords:

Spiritual health; Depression; Pregnancy; Pregnant Women; DASS; Coronavirus

Abbreviations:

DASS: Depression Anxiety Stress Scales**;** COVID-19: Corona Virus Disease 2019**;** WHO: World Health Organization**;** SARS: Severe acute respiratory syndrome

1. Abstract

1.1. Background: Women with high-risk pregnancies experience changes in their personal, family, and social lives that can affect their quality of life and depression. Pregnancy, along with other predisposing factors, can cause or exacerbate depression. Eventually, 15% of depressed people commit suicide. The aim of this study was to determine the effect of Covid-19 on the type of pregnancy (high risk and normal) along with quality of life and depression in pregnant women.

1.2. Methods: This study is an analytical case-control study that referred to 500 patients (250 in the case group, 250 in the control group) of pregnant women who became pregnant during the Covid-19 period for health care during pregnancy. Were, done. The samples were randomly selected, then according to the definition of high-risk pregnancy and normal pregnancy, they were divided into one of two groups: normal pregnancy (control group) and high-risk pregnancy (case group). Data collection tools were a three-part questionnaire including demographic characteristics, Pulotzin and Ellison Spiritual Health Questionnaire and DASS-42 Depression Inventory.

1.3. Results: The results of this study show that the mean score of spiritual health in pregnant mothers with high-risk pregnancies (53.20 ± 16.83) was lower than pregnant women with normal pregnancies (62.82 ± 12.48) and between the mean scores of depression. There is a significant difference between normal pregnancy (9.8 ± 5.44) and high risk pregnancy (15.34 ± 9.15). Also, Pearson correlation coefficient test showed a significant relationship between spiritual health and depression in both groups of mothers with high-risk pregnancies and normal pregnancies ($r = -0.7$) ($p < 0.001$).

1.4. Conclusion: Spiritual health is lower in pregnant women with high-risk pregnancies than in pregnant women with normal pregnancies. Also, the rate of depression in these women is higher than pregnant women with normal pregnancies.

2. Background

The cause of respiratory syndrome infection in the world was believed to be a different genetic virus from the coronavirus family named -SARS 2-CoV, which was known as Covid-19 viral infection. [1]. COVID-19 is caused by human infection of SARS-COV-2 and has affected more than 50 million people around the world [2]. Studies have shown that in pregnant women, viral respiratory diseases can cause pneumonia, leading to premature membrane breakup, premature labor, intrauterine fetal demise, intrauterine growth retardation and even neonatal death [3].

In the last century, anxiety has become a widespread concern that people experience about their mental health status [4]. Anxiety and signs of health arise in two ways: 1) Anxiety illness is an illness, 2) Physical effects disorder. The severity of the symptoms of anxiety ranges from mild to severe. Anxiety is one of the special complications of pregnancy, because a woman has a complicated emotional

state when she gets pregnant due to physical changes or anxiety illness [5]. Bad results for mothers, including preeclampsia, low birth weight, depression and more nausea and vomiting, are associated with stress and anxiety during pregnancy [6]. Pregnancy is one of the most important stages in a woman's life. Although it is a happy period for most women, it is often a stressful period with physiological and psychological changes [7]. During this period, many biochemical, physiological and anatomical changes occur in a woman's body [8].

In fact, the changes that occur in the body are beyond the control of women, and these changes are the first changes that make women both physically and mentally vulnerable [9, 10].

Pregnancy in some women is so stressful that it triggers a mental illness, which may be a recurrence or exacerbation of an existing mental disorder, or a sign of the onset of a new disorder [11].

The rate of depression during pregnancy is based on diagnostic criteria and the study population varies from 10 to 30% [12].

Cunningham quotes Bruger et al; the psychosis of a normal pregnancy doubles the risk of depression in women who have high-risk pregnancies because of concerns about the future of the fetus [13].

Many changes occur during pregnancy in the dimensions of physical, mental, and social health, and in general, the spiritual health of pregnant women. Spiritual health during pregnancy can be measured. This assessment is important in planning for maternal and infant care and understanding the need for these caregivers for government policymakers and health care associations [14].

3. Methods

3.1. Study Population and Design

This was a cross-sectional study in which we actively recruited 500 pregnant mothers. The concept of the thesis was accepted by the Ethics Committee of Shahid Sadoughi University of Medical Sciences (Ref No: IR.SSU.REC.1399.134). In order to determine the sample size, a preliminary study was performed on the main sample and with 95% confidence and 95% test power, the number of samples of 250 people in each group was calculated and in practice, 250 people were selected as case group and 250 people as control group. Characteristics that placed pregnant women in the high-risk group were age less than 20 years or more than 35 years, diseases such as diabetes mellitus, kidney stones, heart disease, uterine bleeding (declination-peria), history of infertility, History of cesarean section, multiple pregnancy, miscarriage, oligo hydramnios and short interval between pregnancies were the control group of mothers who did not have any of these risk factors.

All of the women studied were Iranian and were in the third trimester of pregnancy, at least literate, and did not have a known mental illness or had not received medical treatment for a mental illness in the past year. During the past year suffered a traumatic event such as the death of first-degree relatives, divorce, changing jobs, separation of spouses and others were not. Case and control groups were homogeneous in terms of characteristics such as gestational age, number of children, employment status, spouse employment status, income level.

Statistical tests t and $\chi 2$ did not show a significant difference between the two groups in terms of these variables. Adverse variables in this study that may affect quality of life and depression, such as social and economic status of social and family support, relationship with spouse, cooperation and participation in household chores, whether or not pregnancy and life satisfaction and in life The two groups did not show a significant difference.

In order to select the initial samples, all pregnant women who had referred for pregnancy care that day and at least one of the characteristics of high-risk pregnancy were randomly selected.

After obtaining consent, they participated in the study (case group). After completing the case group samples in each clinic, the same number of control samples (with normal pregnancy) was randomly selected.

Pregnant women referred to Isfahan Private and Medical Hospital in 2019 and 2020 were included in the sample community. A total of 500 pregnant women had been sent to these centers in Mani and the hospital in Isfahan for maternal and delivery treatment. The sampling method was as follows: first, 10 centers out of 15 health centers were randomly selected using a simple lottery. The sample size was determined on the basis of a preliminary analysis with a confidence coefficient of 95 per cent (α=0.05) test intensity of 80 per cent (β=0.2) and the correlation coefficient formula was calculated. Questionnaires were written and updated by health professionals working in the centers for patients who were unable to read and complete the questionnaire. Not all persons were eligible to take part in the survey, and the expense of the study has been taken into account for them, meaning that pregnant women were removed from the study if they had a history of mental illness such as depression or failure to conduct. In this study, three questionnaires were used for personal characteristics (age, education level, profession, maternal age, age of marriage), spiritual health and stress anxiety and DASS depression.

Before completing the questionnaires, women who had pregnant women with opioid use, a history of heart failure and high-risk pregnancies, a history of seeing a doctor or counselor, and taking medicine or psychiatric disorder hospitalization were omitted to eliminate interfering variables. Data analysis was carried out using a population questionnaire and the Wellbeing Anxiety Questionnaire. Questions regarding age, parity, severity, number of infants, economic situation, jobs of women and their husbands, and the trimester of pregnancy were included in the demographic questionnaire.

3.2. Questionnaires

3.2.1. Palutzian and Ellison Mental Health Questionnaire: The Ellison Standard Spiritual Health Questionnaire consists of 20 questions that are strongly agree, agree, disagree, disagree, and strongly disagree on the Likert scale. Each answer was given a score of 1 to 5. The total score of spiritual health is the sum of the scores of the three dimensions of cognition, action and emotions [15]. It is between 20 and 120. In expressions with a positive verb, the answers "strongly agree" were given a score of 5 and "strongly disagreed" a score of 1. The rest of the expressions were scored in reverse with a negative verb. This questionnaire has also been used by other researchers in Iran and its reliability has been confirmed [16].

3.2.2. Stress-Anxiety-Depression Questionnaire (DASS-21): The Depression, Anxiety, and Stress Scale (DASS, Lavibund, 1995) is a set of three self-report scales for assessing negative emotion states in depression, anxiety, and stress [17]. The application of this scale measures the severity of the main symptoms of depression, anxiety and stress. To complete the questionnaire, the person must determine the status of a symptom during the last week. Because this scale can provide a comparison of symptom severity over different weeks, it can be used to assess treatment progress over time [18].

Anthony et al. (1998) based the scale on factor analysis, which again showed the existence of three factors: depression, anxiety and stress. The results of this study showed that 68% of the total variance of the scale is measured by these three factors. The eigenvalues of stress, depression and anxiety in the study were 9.07, 1.23, 2.23 and alpha coefficients for these factors were 0.97, 0.92 and 0.95. The validity and reliability of this questionnaire in Iran have been evaluated by Samani and Jokar (2007) which validated the retest for the Depression, Anxiety and Stress Scale of 0.80, 0.76 and 0.77 and Cronbach's Alpha for the scale, respectively. Depression, anxiety and stress were reported to be 0.81, 0.74 and 0.78 [19].

Each DASS subscale consists of 7 questions, the final score of each of which is obtained through the sum of the scores of the related questions. Each question is scored from zero (does not apply to me at all) to 3 (absolutely does not apply to me). Since DASS-21 is the abbreviated form of the main scale (42 questions), the final score of each these subscales should be doubled. Then, by referring to (Table 2), the severity of the symptoms can be determined [20].

Table 1: Comparison of mean and standard deviation of spiritual health score in pregnant women with normal and high-risk pregnancies in 2020

Spiritual health	Number	Minimum scores	maximum scores	average	S.D	Test result
Normal pregnancy	250	41.99	88.86	62.32	12.48	T=-3.244
High risk pregnancy	250	8.84	84.52	53.33	16.38	Df=98
						p=0.002

Table 2: Comparison of the frequency of depression in pregnant women with normal and high-risk pregnancies in 2020

Depression rate	Normal pregnancy		High risk pregnancy		Test result
	Number	Percent	Number	Percent	T=12.53
No depression	24	48	14	28	Df=3
Mild depression	21	42	18	36	p=0.006
Moderate depression	5	10	10	20	
Severe depression	0	0	8	16	

3.3. Data Analysis:

Descriptive and inferential statistics were used to analyze the data. Descriptive statistics were used to determine the mean and standard deviation and to adjust the absolute and relative frequency distribution tables and inferential statistics; t-test and Pearson correlation coefficient, Spearman correlation coefficient, Mann-Whitney and analysis of variance were used. In this study, SPSS (version 24) software was used for statistical analysis.

4. Results

In this study, 32% of women in the high-risk group were under 20 years old and over 35 years old 18% of them were under 20 years old and 14% were over 35 years old. The majority of pregnant women in both normal (60%) and high-risk pregnancies (30%) groups were between 20 years of age and the mean age was 70.24 ± 92.2 women with normal pregnancies and high-risk pregnancies of 26.26 ± 92.4. The majority of pregnant women in both groups were normal pregnancies (44%) and high-risk pregnancies (46%).

The mean score of spiritual health in pregnant women with normal pregnancies was 32.12 ± 4.61 and the mean score of spiritual health in pregnant women with high-risk pregnancies was 38.12 ± 2.42. Statistical test t showed a significant difference between the two groups so that the mean score of spiritual health was ($p = 0.002$).

There is a significant and inverse relationship between quality of life and depression in both pregnant women with normal pregnancies and in pregnant women with high-risk pregnancies. More precisely, the quality of life decreases with increasing depression ($p<0.001$).

Based on the Scheffe statistical process, there was a substantial difference in the score of moral wellbeing in terms of profession, month of pregnancy and age of marriage. The use of the Scheffe test showed that there was a substantial differential between housewives, self-employed people and moral wellbeing ($p = 0.05$). Also, the spiritual wellbeing of people over 30 years of age was

substantially different from that of people under 25 years of age (p<0,001).

The outcome indicates that the mean self-efficacy score for pregnant women is 62.32±12.48. There was poor self-efficacy in the rating of subjects, 45 percent had modest self-efficacy, and 4.50 percent had high self-efficacy. The effects of demographic factors on self-efficacy were explored by means of a one-way variance analysis (Table 1).

Findings of a study comparing the quality of life in pregnant women with normal and high-risk pregnancies showed that the mean of quality of life gained in pregnant women with normal pregnancies was higher than that of pregnant women with high-risk pregnancies. They have better, and this difference is statistically significant.

This finding revealed that the score for self-efficacy was dramatically different based on age, time of marriage, and month of pregnancy. The use of the Scheffe test indicated that the self-efficacy score was slightly higher in women over the age of 30 than in women under the age of 25 (p=0.024). Also, the self-efficacy score was slightly higher in the second trimester of pregnancy. Significance was higher than self-efficacy in the first quarter (p = 0.014).

The independent and contingent variables in this research are spiritual wellbeing and self-efficacy. The preferred statistical approach is basic linear regression, because of the heterogeneity between the independent and dependent variables. Kolmogorov test showed that the dependent variable was normal (p = 0.046) (Table 3).

Table 3: Investigation between moral wellbeing and its dimensions of Independent variables during the Covid-19 outbreak

Independent variables	The correlation coefficient(r)	The coefficient of determination(r^2)	Beta	B	CI 95%	p
spiritual wellbeing	0.688	0.428	0.667	0.385	0/430 -0/535	<0.001
Existential health	0.693	0.454	0.641	0.341	0/834-1/036	<0.001
Religious health	0.699	0.457	0.625	0.218	0/665-0/893	<0.001
Stress the first of three months of pregnancy	0.655	0.415	0.689	0.356	0/717-0/905	<0.45
Stress the second of three months of pregnancy	0.622	0.421	0.625	0.315	0/610-0/835	<0.05
Stress the third of three months of pregnancy	0.781	0.615	0.614	0.389	0/865-0/1003	<0.001

5. Discussion

All over the world, the corona virus (COVID-19) has affected people of all ages. One of the most important concerns of Covid-19 is in pregnant women and newborns [21]. Pregnancy is the most critical time in a woman's life and is perceived to be a difficult and frustrating period for women [22]. Most pregnant women have low to strong spiritual health ratings, which are appropriate due to the high level of religious beliefs in Iran. According to most of the research in Iran, the neutral position of women's spiritual health was high, but under the conditions of COVID-19, the desirability of women's spiritual health decreased. Ritter et al., in their study of the spiritual health of pregnant women with spondylitis and healthy pregnant women, concluded that people with the disease had lower mental health than healthy mothers [23].

Comparison of depression in two groups of pregnant women with normal and high-risk pregnancies showed that the mean DASS -test scores in normal pregnancies were lower than high-risk pregnancies and the difference between the two groups was significant(p<0.006) [24].

The results show that the rate of depression has significantly increased in the high-risk pregnancy group and the difference between the DASS test scores in the two groups may be due to different pregnancy conditions in the group of pregnant women with high-risk and normal pregnancies. In fact, pregnancy is a stressful period for a woman and can be accompanied by frustrating feelings, sadness and depression, these results from the study of Angerud variables related to depression during pregnancy. In coordination, the researchers said, there is a specific factor that affects the growth of depression during pregnancy [25].

The Rezaei et al research also documented a similar outcome in Iran, including a high level of spiritual wellbeing among Iranian women [26], In the Mehrabi et al. research, the mean of spiritual wellbeing in breast cancer and infertile women reported 95 and 97.7 percent, respectively [27]. The findings of McCobry's research in this study have an important and clear association with spiritual health and age, and the levels of educational attainment [28]. According to the research reported by Adegbola, self-efficacy has a strong and important association with spirituality and somehow confirms the findings of the study that spiritual wellbeing is linked to the moral and existential elements of health [29] Study of Rex et al. He has demonstrated that conducting religious and spiritual duties, such as praying, is successful in raising the degree of self-confidence and self-confidence, and can also improve the level of self-efficacy [30]. The present research also found that spiritual wellbeing can predict self-efficacy. In this research, spiritual health and its dimensions were able to forecast self-efficacy, and current health had the largest effect on predicting the self-efficacy of pregnant women. This finding is consistent with the findings of the Syed Imam research on the health status of students, which found that it predicts spiritual health, self-efficiency and self-esteem [31].

The concept of pregnancy Articulated as a traumatic period of time for women and induced terror, tension among pregnant women and increased fear and anxiety due to acute respiratory disease COVID-19 decreases spiritual wellbeing, which is why this research with the present findings has been clear [32]. Labor risks are different for each mother, but in most of them there was a high level of tension and anxiety, leading to the birth of babies with special conditions such as premature birth, low birth weight, nausea and vomiting [22, 33]. To validate the findings of this research, we should refer to a study conducted by Durankuş in 2020 which showed that COVID-19 increased the incidence of depression, stress in pregnant women, so that the amount of stress and depression during COVID-19 increased [33, 34]. Turkey has found that fear of the unknown, disruption of normal prenatal care and disruption of social life due to quarantine induced anxiety in pregnant women [35]. The use of innovative and varied models of prenatal care by health care professionals will minimize the anxiety of pregnant women in crisis circumstances such as COVID-19 pandemic [36]. The Corbett et al. (2020) study found that most pregnant women (83.1%) were less worried about their health and more concerned about coronavirus and socio-economic status, and shows that pregnant women were more nervous, the present is right [37]. The results of the present study showed that pregnant mothers in the sixth to ninth months of pregnancy are more worried and anxious and their health is significantly affected by Covid-19 disease and studies show that the clinical health of pregnant women in corona virus epidemic has declined [38].

The coronavirus outbreak has infected all members of society, particularly pregnant women, stress and psychological issues and prevents the birth of healthy babies, as most mothers and their children suffer premature birth due to quarantine and elevated stress. They're not normal. Finally, with growing tension, even among the religious and Islamic community of Iran, the spiritual wellbeing of pregnant women is deteriorating, and this research needs to be checked worldwide in order to remove cultural factors as a source of interference. To conclude, in order to draw final conclusions regarding the effect of the SARS- COVID-19 outbreak on pregnant women's mental wellbeing, we assume that undertaking our research again after the COVID-19 pandemic is over and evaluating the findings will be of considerable scientific benefit. Due to changes in blood variables and hormones in the body (changes in circulating blood volume and changes in cervical length), which intensified during this time due to environmental and social tensions, the decrease in stable pregnancy during Covid-19 is mostly due to changes in blood variables and hormones in the body. The limited sample size of the study, as well as the stage of pregnancy for patients at the start of COVID-19, acted as drawbacks. These problems will continue to draw research interest in the future.

6. Conclusion

At the time of the COVID-19 outbreaks, the research objectives mirrored the plurality of pregnant women who had no spiritual well-being, while spiritual wellbeing and its aspects, on the other hand, were able to construct self-efficacy as an existing behavioral feature. It is therefore important to learn more about the impact of spiritual health on the self-efficacy of pregnant women around the world in order to explore the effectiveness of the role of self-efficacy and spiritual health in changing stress in the viral crisis of COVID-19. Stress and anxiety levels in pregnant and postpartum women during the COVID-19 pandemic are low to high. Anxiety and depression generally have higher in women with a family history of medical care, those in the first trimester of pregnancy, and someone who has a single or casual partnership.

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