

## Original Research Article

# Study of the Amount of Stress, Anxiety and Depression Before and After Cesarean in the Pregnant Women

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**Abstract: Background and Aim:** Stress, anxiety and depression can have adverse effects for the mother and baby. This study aimed to amount of stress, anxiety and depression before and after cesarean in the pregnant women to Besat Hospital in Sanandaj. **Materials and Methods:** This study descriptive and cross-sectional on 180 pregnant women undergoing elective cesarean section was performed in 2018. Samples were selected by convenience sampling from referring women to Besat Hospital in Sanandaj. Data were collected using a two-part demographic and midwifery questionnaire and Dass 21 stress, anxiety and depression questionnaire. Data were analyzed using SPSS software version 16, descriptive statistics. **Results:** Results indicated that the degree of the overall rate of stress before cesarean was 36.1% and in the post operation stage 13.9% , degree of the overall rate of anxiety before cesarean was 58.9% and in the post operation stage 19.5% and degree of the overall rate of depression before cesarean was 35.5% and in the post operation stage 21.7% respectively **Conclusion:** According to the results of this study it is recommended to design supportive and preventive programs for pregnant women.

**Keywords:** Stress, Anxiety, Depression, Cesarean section.

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## INTRODUCTION

Cesarean section means the exit of one or more newborns, or rarely, a dead fetus through the incision in the mother's abdominal wall and the uterus [1]. Caesarean section is one of the most common gynecological surgeries around the world [2]. Anxiety and stress are considered psychological complications affecting mothers undergoing cesarean section [3]. Stress is a reaction of a person to external pressures or inappropriate conditions and anxiety is one of its common side effects [4]. Anxiety is a very unpleasant sensation and appears in the form of severe fear or distress or suspicion for an unknown factor [5]. Stress and anxiety caused by surgery by stimulating the sympathetic, parasympathetic and endocrine systems make the body abnormal and cause symptoms such as high blood pressure, palpitations, shortness of breath, tremors, palm sweating, and flare-ups. Decreased saliva, dry mouth, high blood sugar, increased gastric and intestinal motility and urinary incontinence [6].

10-30% of hospitalized patients experience stress even without the need for surgery, but this figure reaches 60-80% in patients in need of surgery [4].

Stress affects not only pregnant women but also the fetus [7]. Maternal stress reduces blood supply to the placenta and fetus through epinephrine secretion and uterine contractility. Epinephrine also reduces the ability of fetal brain cells that are responsible probe for hypoxia by increasing maternal and fetal blood glucose, and thus, fetal brain cells are damaged [8]. Stress can increase postpartum hemorrhage by inhibiting the release of oxytocin [9] .

The prevalence of preoperative anxiety varies from 11% to 80%. Age, gender, culture, level of the individual's awareness of surgery, history of previous surgery, type and duration of surgery, and individual characteristics in stressful situations are some factors that can affect the level of anxiety suffered by patients [5]. Anxiety results in difficulty in accessing the patient's veins increased the need for anesthetics, and also the increased chance of pain, nausea, and vomiting during the postoperative period [10]. Preoperative anxiety, if not controlled or prolonged, may result in reduced wound healing, increased risk of infection, and changes in sleep patterns, which can prolong hospitalization, the patient's delayed discharge, and increased care costs [11].

Causes of preoperative stress include patients visiting unfamiliar environments, observing the operating bed and its high lights, different and unfamiliar devices, cold air, inadequate ventilation, and noise from operating room personnel [12]. Some of the main causes of preoperative anxiety include the fear of surgery, entering the unfamiliar environment, being away from the family, lack of knowledge and awareness about the way surgery is done and its possible consequences [13].

Today, depression is considered as one of the most common psychiatric disorders and a general problem in human life and is seen in all countries and cultures [14]. The World Health Organization estimates that by 2020, depression will be the second most common illness worldwide [15]. Pregnancy and the subsequent period are associated with very important psychological and physiological changes that may sometimes lead to pathological changes and psychological disorders [14]. The prevalence of depression in women during pregnancy is 10-15% [16.] And in the postpartum period is between 5 and 40%. Depression accounts for more than 12.5 percent of women's admissions due to psychological problems [17]. Maternal depression is one of the most serious mental health problems in women due to its side effects [18]. Postpartum depression is more common in women who have given birth by cesarean section [14].

The progression of postpartum depression is often gradual and usually begins 2 to 3 weeks after delivery. General symptoms of depression include fatigue, depressed mood, marked change in appetite or weight, loss of interest in most activities, insomnia or oversleeping, feelings of worthlessness or guilt, decreased concentration, death or suicide scars [19], agitation Acceptability, fear, lack of confidence, anger [20]. Maternal depression leads to: Decreased maternal self-care, inadequate nutrition during pregnancy, substance abuse, use of harmful substances to the fetus, spontaneous abortion, preeclampsia and postpartum depression [21], prematurity, low birth weight and infant death [22], the child's cognitive disorders [23], mother-infant relationship disorder [24], suicide [25] and parenting become dysfunctional [26]. Depressed women are unable to meet their social and emotional needs and their children are more prone to anxiety disorders and depression [27].

According to theories, factors such as biological causes (such as hormonal causes, genetic theories), psychosocial factors (personality traits, coping styles, stressful life events, dissatisfaction with marriage and low levels of social support) and And cultural factors play a role in depression [28].

Zareipour et al. (2012) reported a stress rate of 1.49% in pregnant women (29) But Faramarzi and her colleague (2015) in their study reported stress in one

third of pregnant women [30]. In the study of Khatibi et al. (2012), the level of anxiety of patients before and after surgery was reported to be moderate [31.] But Al-Maliki et al. (2017) reported high levels of patient anxiety before surgery [32]. In the study of Khatibi et al. (2013), depression before and after surgery was reported to be mild (31). But Zareipour et al. (2012) reported depression in 31.7% of pregnant women [29].

Therefore, due to the effects of stress, anxiety and depression and contradictory results in the amount of the stress, anxiety and depression and insufficient attention to the psychological effects of cesarean section and due to lack of knowledge in this field among women under cesarean section, this study aims to determine amount of the stress, anxiety and depression of pregnant women and cesarean section in pregnant women referred to Besat Hospital in Sanandaj was designed.

## METHODOLOGY

This descriptive and cross-sectional study was conducted on 180 pregnant women referring to Besat Hospital in Sanandaj to undergo cesarean section. The inclusion criteria included willingness to participate in the study, being at the age of 18 to 45, having full consciousness, planned pregnancy, having a natural course of pregnancy, being healthy in terms of hearing and speech, lack of mental retardation in the mother, lack of history of infertility, lack of education in medicine and paramedics, lack of history of known mental illness, and other illnesses affecting the psychological state and surgical outcomes, not taking anti-anxiety and anti-stress drugs in the preoperative period, having no significant event other than pregnancy in the past 9 months, no having a disable spouse or child, non-use of tobacco and drugs, and for the post-cesarean section, in addition to the above, the birth of a seemingly healthy child was also a criterion for entering the study. The exclusion criteria were the unwillingness to continue cooperation, tubectomy or hysterectomy during surgery, postpartum complications such as bleeding, eclampsia, fever and other postpartum complications, the death of the baby after birth, and the baby's hospitalization in the neonatal intensive care unit.

After obtaining permission from the Ethics Committee of Kurdistan University of Medical Sciences (IR.MUK.REC.1397.029) and obtaining a letter of introduction from the research deputy of the Faculty of Nursing and Midwifery and presenting it to the head of Besat Hospital, the researcher resourced for collecting information on consecutive days in the morning to the postpartum section of Besat Hospital And presented to pregnant women who were referred for preparation for cesarean section and had criteria for entering the study, provided an explanation of the purpose of the study. Pregnant women willing to participate in the study using the available sampling method were selected and

after signing the consent form, questionnaire for demographic and midwifery information and stress, anxiety and depression DASS 21 in the pre-cesarean section and the DASS 21 stress, anxiety and depression questionnaire in the post-cesarean section were completed by the researcher for the selected samples.

The demographic information questionnaire including questions about age, level of education, and occupation of the women and her husband, family income level, and midwifery characteristics such as questions about marital satisfaction, number of parity, history of surgery and cesarean section and satisfaction with the baby's gender.

To assess maternal stress and anxiety, the DASS 21 questionnaire (abbreviated form of the main 42-item scale) was used. This questionnaire includes 21 questions on depression, stress and anxiety, and the share of each is 7 questions, and the final score of each of the three scales is obtained by summing the scores of the questions related to that section. questions of stress (questions 1-6-8-11-12-12-14-18), anxiety (questions 2-4-7-9-15-15-20) and depression (3, 5, 10, 13, 16, 17 and 21). The questions in this questionnaire are on a Likert scale and have four options at all (zero score), low (score 1), medium (score 2) and high (score 3).

After summing up seven questions for each section to become a 42-question form, the final score of each of these subscales should be multiplied by 2, and depending on the score obtained, the severity of the symptoms can be determined. -14: Natural, 15-18: Mild stress, 19-25: Moderate stress, 26-33: Severe stress and  $\geq 33$  score Very severe stress sign. For the Anxiety Scale, the score is 0-7: normal, the score is 8-9: the mild anxiety, the score is 10-14: the average anxiety, the score is 15-19: the severe anxiety, and the 20-20 score is very intense anxiety. The validity and reliability of this questionnaire has been confirmed in various studies in the country [33] and abroad [34].

After completing the questionnaires in the pre-cesarean section, the researcher provided the samples with the necessary information about the time and how to check the stress and anxiety after the cesarean section. In order to assess the stress and anxiety after cesarean section on the again at least 35 days after cesarean section, the researcher completed the DASS 21 questionnaire again for them during a telephone call with the samples (if the samples were desired). Data analysis was performed using Spss software version 16 and descriptive statistics.

## RESULTS

The mean age of the respondents was  $30.51 \pm 6.32$  and that of their husbands was  $34.87 \pm 6.78$ . Most of the respondents (85.6%) were housewives and 92.8% of their husbands were employed. 73.3% of them had a sufficient level of income and the majority of the

respondents and their husbands held a high school diploma (37%). Most of the respondents (86.7%) Satisfied with their marital life. Besides, 16.6% of mothers did not have a history of delivery. Only 24.4% of mothers had a history of surgery and the majority of the respondents (83.9%) were satisfied with their baby's gender.

The study findings also showed that the rate of stress in the majority of the studied units before cesarean section (63.9%) and after cesarean section (86.1%) was in the range of 0-14 points, which indicates the level of natural stress and. The rate of anxiety in the majority of the studied units before cesarean section (41.1%) and after cesarean section (80.5%) was in the range of 0-7 points, which indicates the level of natural anxiety. The overall rate of stress and anxiety before cesarean section was 36.1% and 58.9%, respectively, and in the post-cesarean stage, it was 13.9% and 19.4%, respectively.

The results also showed the depression level in the majority of respondents before the cesarean section (64.5%) and after cesarean section (78.3%) is within the ange of 0-7, indicating a normal level of depression. The overall depression levels before and after the cesarean sections were 35.5% and 21.7%, respectively.

## DISCUSSION

Based on the results of this study, The Stress level of the respondents before the cesarean section was 36.1% (16.7% low Stress, 14.4% average Stress, 5% severe Stress) and after cesarean section was 13.9% (7.8% low Stress, 5% average Stress, and 1.1% severe Stress). The results are consistent with the results of a study by Faramarzi and Pasha [30], And it is not consistent with the study of Zareipour et al. (2017) who reported 49.1% of stress in pregnant women [29]. The reason for the discrepancy between the study results of Zareipour et al. And the present study may be due to differences in the study location, sample size and level of education of the studied units. The sample size in the study of Zareipour et al. Is 350 people and was performed on rural pregnant women who mostly had primary education. Lack of knowledge and awareness on a particular subject may be stressful for the individual.

The anxiety level of the respondents before the cesarean section was 58.9% (17.8% low anxiety, 29.4% average anxiety, 7.7% severe anxiety, and 4.4% very severe anxiety) and after cesarean section was 19.4% (7.8% low anxiety, 10.6% average anxiety, and 1.1% severe anxiety). The results are consistent with the results of a study by Almalki et al. (2017) who reported a high level of anxiety in patients before elective surgery [32].

According to the results of this study, the overall rate of depression before cesarean section was 35.5% (21.1% mild depression, 3.9% moderate depression, 9.4% severe depression and 1.1% very severe depression), after cesarean section. 21.7% (11.7% mild depression, 6.6% moderate depression and 3.4% severe depression). These results are consistent with the study of moshki et al. [27] and Baghi et al. [28].

Although having low levels of stress causes people to have better emotional responses and better adaptive behaviors, excessive stress by stimulating the sympathetic nervous system increases heart rate and blood pressure, heart irritability, and increasing need. Myocardial infarction is due to oxygen, changes in the immune system's response and imbalance of electrolytes and body fluids, and changes in sleep patterns [35]. The effect of stress on a healthy person is a function of various factors, such as the severity of stress, its specific effects on living conditions, physical and mental condition, the number of stressors that occur simultaneously, age and adaptation status [36].

Anxiety is one of the main complaints in most patients undergoing surgery [37]. Due to the fact that surgery is associated with bleeding and pain, it is a potential risk that endangers the health of the individual and as a result causes anxiety in patients [38]. Although anxiety makes human life dynamic and dynamic, however, only a certain amount of anxiety is beneficial for human beings and excessive anxiety can make a person prone to any physical and mental illness [39].

The limitations of this study include Cross-sectional study and the limited access to Besat Hospital, the relatively low number of respondents (despite the calculation of the sample size based on previous studies), the use of availability sampling technique and the possibility that the respondents' may have not provided honest responses in the presence of the researcher

## CONCLUSION

Considering the prevalence of stress, anxiety and depression before and after cesarean section, mental health and its related factors in pregnant women and patients undergoing surgical procedures should be placed on the top of the research list of the university and preventive programs for pregnant women.

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