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Reasons for Preoperative Anxiety and Severity in Psychological Stress of Women Before Caesarean Section

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Abstract

Background: Preoperative fear is a common and neutral response of human beings as expecting surgery even if the surgery is significantly needed. Several factors cause preoperative stress or anxiety, which affects the physical and psychological health of people.

Study aim: This study aims to measure the possible reasons for preoperative anxiety and the severity of psychological stress of women prior to cesarean section.

Methods: The descriptive and comparative study design was used in a convenience sample of 120 pregnant women before cesarean section. The women were selected from the Al-Zahra Teaching Hospital in Al-Najaf province. The psychological stress level was measured using a brief measure of the emotional preoperative stress scale.

Results: The study findings show that the level of psychological stress of women before cesarean delivery ranged from mild (56%) to moderate (43%). The study highlighted the importance of considering the increase in psychological stress levels for women prior to cesarean section and the need for more research into interventions that can reduce psychological stress.

Conclusions and recommendations: Psychological stress during pregnancy negatively affects the health of women and their fetuses. Many antianxiety medications are contraindicated for pregnant women; therefore, it is recommended that people use a stress management intervention before any surgery to reduce surgery-related psychological stress.

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INTRODUCTION

Cesarean section is a life-saving procedure that should be available to all women who require it for certain complications during pregnancy and childbirth and includes additional risks for hysterectomy, abnormal placentation, uterine rupture, stillbirth, and preterm birth in the subsequent pregnancy. With more cesarean sections, there is a greater incidence of bleeding, the need for blood transfusion, pelvic adhesions, intraoperative surgical damage, and

hysterectomy (Sandall et al., 2018). Studies have shown that cesarean section has a psychological effect on the mother after cesarean section, leading to an increased risk of depression, increased significant psychological trauma, and posttraumatic stress related to birth (Vanahor et al., 2018)². Psychological stress is a common side effect of expecting surgery, even if surgery is significantly needed. However, the stress response is influenced by

changes in the metabolic, neurohormonal, and immunological systems, as well as anxiety. Thus, these alterations have been observed due to surgery and stress associated with elevated cortisol levels in the blood (Leardi et al., 2007). Preoperative fear increases the risk during surgical procedures, as well as postoperative risks, by adding a negative emotional response that causes depression or anxiety that affects the mother's recovery or delays the healing of the mother after the operation (Bakr et al., 2014). Postoperative physiological and psychological outcomes are influenced by preoperative psychological stress; therefore, the impact of psychological stress on women's health outcomes has been assessed and shown to impact the process of wound healing and postoperative problems in the first month after surgery (Levett & Grimmett, 2019). Numerous variables, including gender, marital status, fear of complications, apprehensions, previous surgical experience, socioeconomic status, postoperative pain, type of anesthesia, lack of preoperative information, smoking and drinking, education, and occupation, have been related to the severity of preoperative stress. As a result, more information on anesthesia and surgical procedures is essential to help reduce stress prior to surgery (Kiriakopoulos et al., 2019; Jiwanmall et al., 2020). Pregnancy-specific stress has a more substantial influence on birth outcomes than general stress, and that stress is magnified in high-risk pregnancies. In particular, there is a significant increase in the risk of anxiety and stress in pregnant hospitalized patients who are given bed rest (Hobel et al., 2008; Teckenberg-Jansson et al., 2019; Kareem & Ali, 2021).

METHODS AND MATERIALS

Study design: The descriptive-comparative study design is used to measure the effects of possible reasons for preoperative anxiety and the severity of psychological stress of women prior to cesarean section.

Ethical Considerations: Before starting the sample collection, the study was approved by the Research Ethics Committee of the University of Kufa, Faculty of Medicine, and that study was free of any possible harm to the participants (physical or psychological). The women were informed that their participation in the study was voluntary and that their information would be kept confidential.

Study Setting:

The study is conducted at Al-Najaf Al-Ashraf Government, Al-Zahraa Teaching Hospital for Delivery and Children. Al-Zahraa Hospital was chosen because of its preoperative admission policy, which requires admission for one day before cesarean delivery.

Sample and sampling plan:

A nonprobability "convenience" sampling technique was used to gather information from 120 pregnant women before the cesarean section. Cohen's methods were used to determine the appropriate sample size.

Inclusion and Exclusion Criteria: The inclusion criteria are women of all ages admitted for elective cesarean section. Women who are admitted at least one day before the cesarean section. Women are excluded if they are admitted for emergency cesarean delivery and those with a history of mental health problems.

Study Instrument:

The brief measure of the emotional preoperative stress scale was used to measure the psychological stress of women. This scale was initially developed by (Caumo et al., 2016) and contains 15 items. The higher score indicates a severe level of preoperative psychological stress.

Data Collection:

Data were collected using a structured questionnaire. The translated version of the brief emotional preoperative stress scale measure was used to collect data from pregnant women. The questionnaire was self-administered, and the estimated time to complete it ranged between 20 and 25 minutes.

Statistical analysis: The collected data were analyzed using Microsoft Excel (2010) and SPSS software version 26. Descriptive statistics were used to describe demographic data, health-related variables, and psychological stress levels of pregnant women.

Results

The sociodemographic variables of 120 pregnant women are described in Table 1. The age ranges between (22–25) years (31.7%). Women with primary education (35.0%), those not working

(86.7%), and Women living in urban areas constitute (74.2%). Figure 1 describes the various reasons for preoperative anxiety. Fear of death, concern for family, fear of postoperative pain, fear of anesthesia, fear of medical errors, complications, and fear of apparent cause are the most common reasons women have for their preoperative anxiety. The psychological

stress levels are explained in Figure 2. Most pregnant women experience psychological stress ranging from mild (43%) to moderate levels (56%). Table 2 shows that of 17 reasons for preoperative fear, only 10 reasons contribute significantly to the psychological stress before cesarean delivery ($P < 0.05$).

Table 1: Descriptive statistics of sociodemographic variables of women

Age Groups	f	%	Residence	f	%
17 - 21	20	16.7	Rural Area	31	25.8
22 - 25	38	31.7	Urban Area	89	74.2
26 - 30	32	26.7	Total	120	100.0
31 - 34	19	15.8	Marital Status	f	%
35 - 40	11	9.2	Married	118	98.3
Total	120	100.0	Separated	2	1.7
			Total	120	100.0
Educational Level	f	%	Working Status	f	%
Do not Read and Write	24	20.0	Not Working	104	86.7
Primary Education	42	35.0	Free Job	3	2.5
Intermediate School	28	23.3	Governmental Employee	13	10.8
High School	8	6.7	Total	120	100.0
Diploma or Bachelor Degree	18	15.0			
Total	120	100.0			

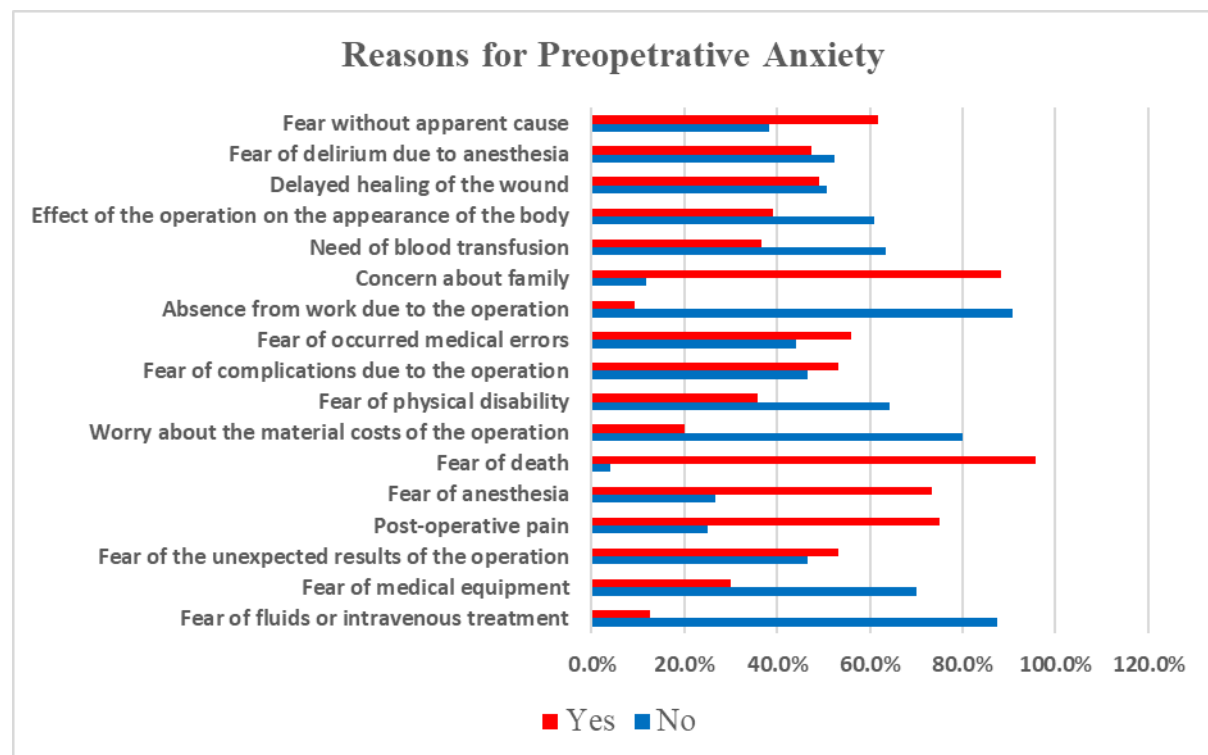
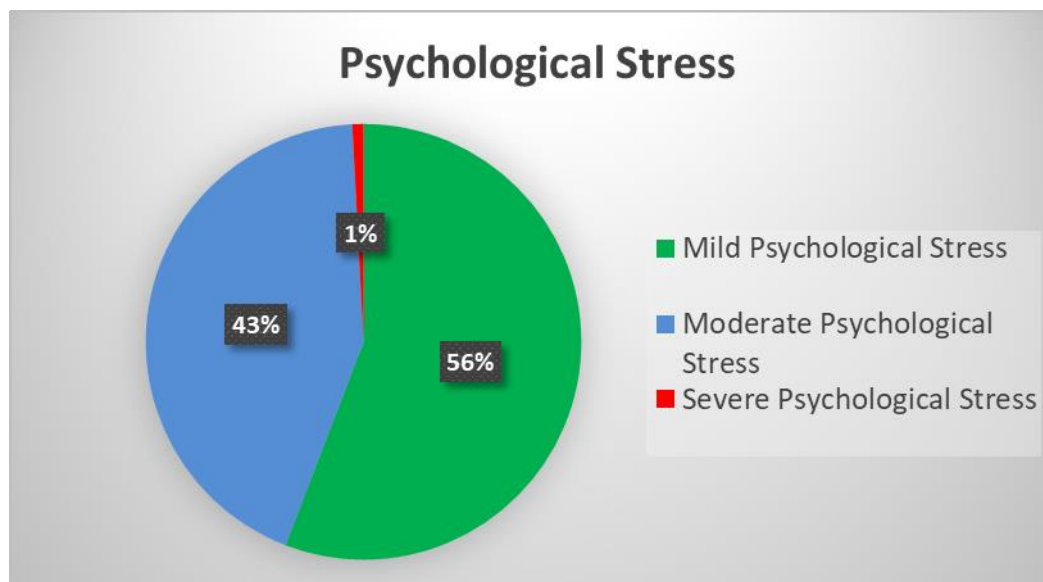


Table 2: Differences in psychological stress of women based on reasons of preoperative anxiety.

Reason for Preoperative Anxiety	ANOVA Test
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		Mean Square	F	Sig.
Reason 1	Fear of fluids or intravenous treatment	4.876	.222	.639
Reason 2	Fear of medical equipment	373.373	19.781	.0001
Reason 3	Fear of the unexpected results of the operation	103.754	4.903	.029
Reason 4	Post-operative pain	45.511	2.102	.150
Reason 5	Fear of anesthesia	183.755	8.971	.003
Reason 6	Fear of death	19.501	.892	.347
Reason 7	Worry about the material costs of the operation	18.802	.859	.356
Reason 8	Fear of physical disability	142.330	6.832	.010
Reason 9	Fear of complications due to the operation	100.060	4.722	.032
Reason 10	Fear of medical errors	76.782	3.590	.061
Reason 11	Absence from work due to the operation	127.317	6.074	.015
Reason 12	Concern about family	102.866	4.860	.029
Reason 13	Need for blood transfusion	77.037	3.602	.060
Reason 14	Effect of the operation on the appearance of the body	26.130	1.198	.276
Reason 15	Delayed healing of the wound	133.741	6.397	.013
Reason 16	Fear of delirium due to anesthesia	93.868	4.419	.038
Reason 17	Fear without apparent cause	104.070	4.919	.028



DISCUSSION

The findings of this study indicate that the psychological stress of women before a cesarean section mainly ranges between mild to moderate levels. Stress is the typical response for several reasons for preoperative fear, such as fear of anesthesia, fear of death, fear of medical errors, and family concern, and so on, a reason for preoperative fear that can be increased by psychological stress level (Abarghooe et al., 2022). A study conducted in Pakistan found that preoperative fear of death causes a high level of pre-operative anxiety that can lead to increased postoperative analgesic requirement, prolonged hospital stay, significant contribution to adverse

perioperative outcomes, and poor patient satisfaction (Jawaid et al., 2007). A similar study conducted in Turkey showed that perioperative anxiety is associated with increased autonomic fluctuations, a greater need for anesthesia, a greater possibility of experiencing nausea and vomiting, and increased pain in the immediate postoperative period of surgery (Celik & Edipoglu, 2018). Furthermore, a study conducted in Ethiopia showed that it increases the possibility of high psychological stress before the operation resulting from the fear of anesthesia. In addition, the stress response is influenced by changes in the metabolic, neurohormonal, and immunological systems, as well as anxiety. Therefore, these alterations have been observed

because of surgery and stress associated with cardiovascular changes and elevated cortisol levels in the blood (Bedaso & Ayalew, 2019). In addition, other studies in Turkey have shown that difficulty waking up from anesthesia, changes in lifestyle, degradation of body image, postoperative pain, disability, and fear of death are the main reasons for their anxiety before surgery (Akutay & Ceyhan, 2023). Fear of delayed wound healing can be a reason for preoperative psychological stress that causes specific physiological alterations through manipulation of the immune and nervous systems. However, observational studies have shown that stress and fear before surgery can slow healthy wound healing (Basu et al., 2022).

Conclusions and recommendations:

Psychological stress during pregnancy is caused by several factors and negatively impacts the health of women and their fetuses. Many antianxiety medications are contraindicated for pregnant women; therefore, it is recommended that the stress management intervention be the safest way of reducing surgery-related psychological stress in pregnant women prior to the cesarean section.

DECLARATION SECTION

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Ethical Considerations

Before starting the sample collection, the study was approved by the Research Ethics Committee of the University of Kufa, Faculty of Medicine, that the study was free of any possible harm to the participants (physical or psychological). The women were informed that their participation in the study was voluntary and that their information would be kept confidential.

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Conflict of interest

The authors report that there is no conflict of interest.

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None to be declared.

Data availability

Data are available by contacting the corresponding author by email.

Authors contribution

All authors contributed equally to the conception and design of the study, data collection, and analysis and drafted the initial manuscript. All authors critically reviewed and edited the manuscript. All authors approved the submission of the final version of the manuscript.

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