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Pre-caesarean Anxiety Level in Obstetric Patients Undergoing Elective or Emergency Cesarean Section: A Comparative Study

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Abstract:

Introduction: *A prevalent physiological reaction to stress is the manifestation of anxiety symptoms observed in individuals undergoing surgical procedures. Obstetric patients have been found to exhibit a higher degree of preoperative anxiety in comparison to the general surgical patients. The primary objective of this study was to evaluate and compare the levels of preoperative anxiety among obstetric patients who were scheduled for elective or emergency cesarean section.*

Methodology: *The present study was a cross-sectional comparative study undertaken at the Combined Military Hospital of Bogura, specifically within the Department of Obstetrics and Gynaecology, for one year, from January 2022 to December 2022. According to the American Society of Anesthesiologists, the study included a sample size of 200 obstetric patients classified as physical status II. These patients underwent either elective cesarean section (n=100) or emergency cesarean section. The study employed the Hospital Anxiety and Depression Scale (HADS) and the Visual Analogue Scale for Anxiety (VAS-A) as assessment tools. The study used a purposive sampling strategy*

Result: *In this study, 50% of subjects belonged to the <25 years age group and 50% to >25 years age group. Most patients, 120 (60%), lived in the urban area, and the rest, 80 (40%) lived in the village. Regarding economic and clinical characteristics, 50% of patients had no personal income, most of the patients (65%) were multigravida, 80% of patients had no chronic illness, 70% had no anesthetic exposure, 85% had no awareness about anesthesia, 60% had awareness about surgery, 50% had the urgency of emergency surgery and 50% had elective surgery. Concerning the factors of anxiety, 90% of patients had postoperative pain, 85% had a fear of being unable to recover, 80% of patients had a fear of complications, and 80% had unexpected results of the operation. Among the patients, 136(68.0%) had pre-caesarean anxiety when undergoing emergency caesarean surgery while 64 (32.0%) patients had pre-caesarean anxiety when undergoing elective surgery (p <0.0001).*

Conclusion: *It is recommended that all patients undergoing surgery, regardless of elective or emergency, have an assessment for anxiety during their standard preoperative anesthetic evaluation. Patients identified as having a significant level of anxiety should be booked for an additional counseling session.*

Keywords: Anxiety, Elective c/s, Emergency Caesarean Section,

Introduction:

Cesarean section is one of the most common surgical procedures performed on obstetric patients, and regional or general anesthesia techniques are based on patients' indications[1]. However, in modern obstetrics anesthesia practice, the percentage use of regional anesthesia for cesarean section has become a marker of quality in terms of risk and benefits for both mother and fetus[2]. World Health Organization (WHO) recommended the optimal Cesarean Section rate should be between 5% and 15%[3]. Preoperative anxiety is often described as an uncomfortable, tense, unpleasant mood before surgery, an emotional response to a potential challenge or threat to reality. It results in complications by stimulating the sympathetic nervous system, causing tachycardia, increased blood pressure, arterial vessel contraction, decreased blood circulation to wounds, decreased tissue partial pressure, chronic pain, and

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depression.[4] Preoperative anxiety is a challenging concept in the preoperative care of patients. Most patients awaiting surgery experience anxiety, which is widely accepted as an expected response.[5] Untreated anxiety ended in major cardiac events like congestive cardiac failure, acute myocardial infarction, and pulmonary edema. In addition, it increases the readmission rate, causes poor quality of life and high rate of cardiac mortality, high postoperative pain, increased analgesic and anesthetic consumption, prolonged hospital stay, influence during anesthetic induction, delay patient recovery, and decreased patient satisfaction with the perioperative experience.[6] Anxiety is a set of behavioral manifestations. It is broadly of two types: state anxiety and trait anxiety. State anxiety is driven by episodes of anxiety that do not persist beyond the situation and is a temporary emotional state. This state varies over time. Trait anxiety is a condition in which an individual experiences a lifelong pattern of anxiety.[7] Worldwide, the prevalence rate of preoperative anxiety among adult patients ranged between 11 and 80%[8] and prevalence rates of preoperative anxiety in an African country ranged from 47% to 70.3%.[9] However, most studies showed a higher level of preoperative anxiety in obstetric patients compared to the general surgical population and reported 73.3–86%.[10] The State-Trait Anxiety Inventory (STAI) has been valid and reliable and it is currently taken as a gold standard tool. It has shown consistent results in different populations and ethnic groups in assessing anxiety.[11] Preoperative anxiety becomes a psychological issue when fear of surgery is so significant that it may begin to have physical symptoms like a rapid heartbeat, nausea, and chest pain. If patients are prone to anxiety, surgery can trigger a panic attack. Thus, healthcare providers need to examine and understand the mental health of patients undergoing surgical procedures. It is often accompanied by restlessness, fatigue, problems in concentration, muscular tension, and an uneasy feeling. In addition, preoperative anxiety is also associated with increased nausea, vomiting in the postoperative period, prolonged infection, and perioperative pain. [12] The present study assessed and compared preoperative anxiety in obstetric patients undergoing elective or emergency cesarean section.

Objective

General Objective

- To compare preoperative anxiety level in patients undergoing elective or emergency cesarean section.

Specific Objectives

- To find out the sociodemographic characteristics of the study population.
- To determine the clinical characteristics of the participants.
- To evaluate the possible factors of anxiety.

Methodology:

This cross-sectional study was conducted in Combined Military Hospital, Bogura, in the Department of Obstetrics and Gynaecology for 1 year; from January 2022 to December 2022. A total of 200 obstetric patients under going anesthesia physical status II according to the American Society of Anesthesiologists, undergoing elective (n=100) or emergency (n=100) cesarean section were included in the study. The Visual analog scale for anxiety (VAS-A) (Figure 1) and the hospital depression and anxiety scale (HADS) (Figure 2) were used as study tools. A purposive sampling technique was used in this study. A pre-formed data collection sheet collected all data. Informed written consent was obtained from the study

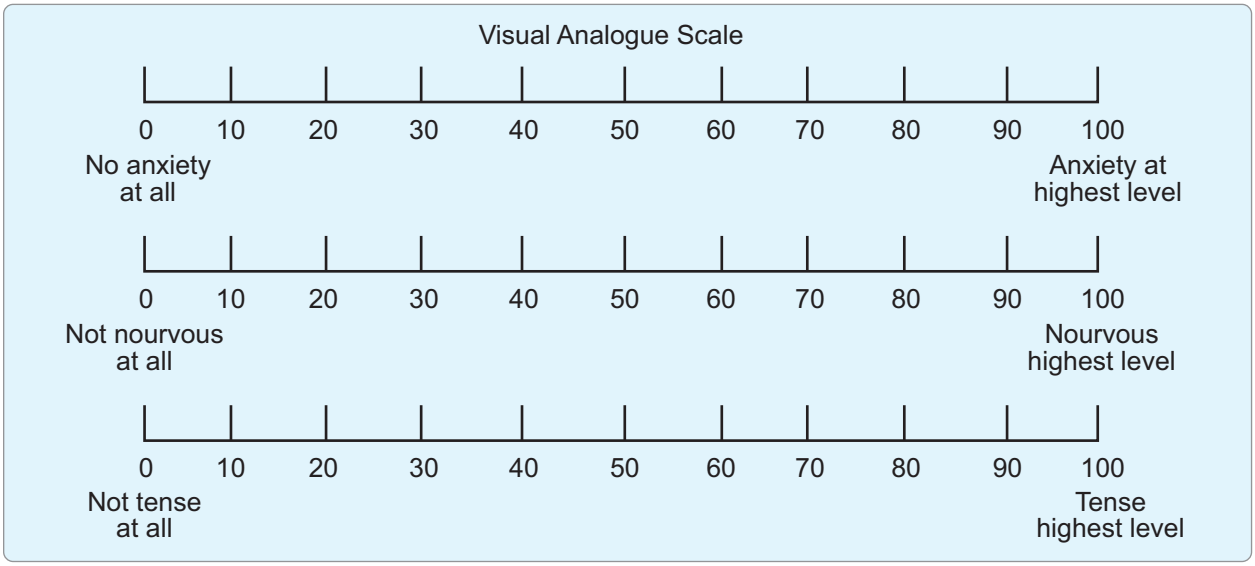

Fig.-1: *Visual Analogue Scale for anxiety*

Hospital Anxiety and Depression Scale (HADS)

Tick the box beside the reply that is closest to how you have been feeling in the past week.
Don't take too long over you replies: your immediate is best.

D	A		D	A	
		I feel tense or 'wound up':			**I feel as if I am slowed down:**
	3	Most of the time	3		Nearly all the time
	2	A lot of the time	2		Very often
	1	From time to time, occasionally	1		Sometimes
	0	Not at all	0		Not at all
		I still enjoy the things I used to enjoy:			**I get a sort of frightened feeling like 'butterflies' in the stomach:**
0		Definitely as much		0	Not at all
1		Not quite so much		1	Occasionally
2		Only a little		2	Quite Often
3		Hardly at all		3	Very Often
		I get a sort of frightened feeling as if something awful is about to happen:			**I have lost interest in my appearance:**
	3	Very definitely and quite badly	3		Definitely
	2	Yes, but not too badly	2		I don't take as much care as I should
	1	A little, but it doesn't worry me	1		I may not take quite as much care
	0	Not at all	0		I take just as much care as ever
		I can laugh and see the funny side of things:			**I feel restless as I have to be on the move:**
0		As much as I always could		3	Very much indeed
1		Not quite so much now		2	Quite a lot
2		Definitely not so much now		1	Not very much
3		Not at all		0	Not at all
		Worrying thoughts go through my mind:			**I look forward with enjoyment to things:**
	3	A great deal of the time	0		As much as I ever did
	2	A lot of the time	1		Rather less than I used to
	1	From time to time, but not too often	2		Definitely less than I used to
	0	Only occasionally	3		Hardly at all
		I feel cheerful:			**I get sudden feelings of panic:**
3		Not at all		3	Very often indeed
2		Not often		2	Quite often
1		Sometimes		1	Not very often
0		Most of the time		0	Not at all
		I can sit at ease and feel relaxed:			**I can enjoy a good book or radio or TV program:**
	0	Definitely	0		Often
	1	Usually	1		Sometimes
	2	Not Often	2		Not often
	3	Not at all	3		Very seldom

Please check you have answered all the questions

Scoring:
Total score: Depression (D) _____ Anxiety (A) _____
0-7 = Normal
8-10 = Borderline abnormal (borderline case)
11-21 = Abnormal (case)

Fig.-2: *Hospital anxiety and depression scale(HADS)*

subjects before commencing the study. Data clean-up and cross-checking were done for inconsistencies and missed values. Appropriate coding and editing were performed before data entry. The coded data were entered into Epi-info software version 7 and exported to SPSS version 24. A value of more than 11 on the HADS scale was taken as significant preoperative anxiety. Descriptive, inferential statistics were performed to observe the prevalence of anxieties. A Chi-square test was performed to compare the difference in anxiety level between the patients of elective and emergency cesarean section, where <0.05 considered the level of significance with 95% CI. The inclusion and exclusion criteria were as follows:

Inclusion Criteria

- Patients undergoing cesarean section, either elective or emergency.
- Patients who had given consent to participate in the study.

Exclusion Criteria

- Patients who did not give consent to participate in the study.
- Patients with chronic illnesses like-DM, HTN, hypothyroidism.

Result:

In this study, 50% of subjects belonged to the <25 years age group and 50% to the>25 years age group. Most of the patients (120, 60%) lived in the urban area and the rest (80, 40%) lived in the rural area. Regarding economical and clinical characteristics, 50% of patients had no personal income, 10.0% had <15000 BDT and 40.0% had >15000 BDT per month. [Table I]

Table-I

Sociodemographic characteristics of the study population (N=200).

Characteristics	N	%
Age		
<25	100	50.0
>25	100	50.0
Level of education		
Secondary and below	50	25.0
Graduate	150	75.0
Residence		
Urban	80	40.0
Rural	120	60.0
Economic status		
No income	100	50.0
<15000 BDT/month	20	10.0
>15000 BDT/month	80	40.0

Most of the patients (65%) were multigravida, 80% of patients had no chronic illness, 70% had no anesthetic exposure, 85% had no awareness about anesthesia, 60% had awareness about surgery, 50% had emergency surgery and 50% had elective surgery. [Table II]

Concerning the factors of anxiety, 90% of patients had fear of postoperative pain, 85% had a fear of unable to recovering, 80% of patients had a fear of complications, and 80% had fear of unexpected results of the operation. [Table III]

Among the patients, 67.29±8.51 had pre-cesarean anxiety when undergoing emergency caesarean surgery, while 48.35±10.29 patients had pre-caesarean anxiety when undergoing elective surgery [according to HADS]. 73.61±5.31 had anxiety before emergency surgery, while 52.43±4.16 had before elective surgery [according to VSA-A] (p <0.0001.) [Table IV].

Table-II

Clinical characteristics of the participants (N = 200).

Variables	Category	Frequency (N)	Percent (%)
Gravidity	Primigravida	70	35.0
	Multigravida	130	65.0
Postoperative pain	Yes	100	50.0
	No	100	50.0
Anesthesia exposure	Yes	60	30.0
	No	140	70.0
Awareness about anesthesia	Yes	30	15.0
	No	170	85.0
Awareness about surgery	Yes	80	40.0
	No	120	60.0
Type of the surgery	Emergency	100	50.0
	Elective	100	50.0

Table-III

Preoperative anxiety and possible factors (N=200).

Variables	Frequency (N)	Percentage
Fear of complications	160	80.0
Fear of postoperative pain	180	90.0
Fear of death	50	25.0
Unexpected results of operation	160	80.0
Harm from doctor's mistake	30	15.0
Fear of unknown	140	70.0
Fear of physical disability	60	30.0
Waiting for operation	30	15.0
Financial loss	60	30.0
Unable of recovery	170	85.0
Awareness during surgery	90	45.0
Cosmetics issues	40	20.0

Table-IV

Total anxiety count among the study subjects (N=200).

Study tool	Emergency cesarean section (N)	Elective cesarean section (N)	Significance
HADS	67.29±8.51	48.35±10.29	P<0.0001
VSA-A	73.61±5.31	52.43±4.16	

HADS= Hospital Depression and Anxiety Scale
VSA-A=Visual analog scale for anxiety

Discussion:

Some tools have been used in the assessment of levels of anxiety in adult surgical patients in developed countries, including the Depression, Anxiety, and Stress Scale (DASS), STAI, and the Visual Analogue Scale of Anxiety (VAS) [20]. In this study, 50% of subjects belonged to <25 years age group and 50% to >25 years age group. Most of the patients, 120(60%), lived in the urban area, and the rest, 80 (40%) lived in the village area. Concerning the factors of anxiety, 90% of patients had postoperative pain, 85% had a fear of being unable to recover, 80% of patients had a fear of complications, and 80% had unexpected results of the operation. Other reasons include fear of death, harm by a doctor's fault, fear of physical disability, financial loss, waiting for an operation, fear of unknown causes, and so on. According to a study, factors affect preoperative anxiety, including age, gender, marital status, level of education, the uncertainty of the exact day of surgery, fear of surgery, fear of anesthesia, fear of complications, fear of death, fear of disability, the patient's ability to understand the events that occur during surgery, concern about their family, financial loss, postoperative pain, unable of recovery, fear of unknown causes which were quite similar to this study. [13] In the present study, 67.29±8.51 had pre-cesarean anxiety when undergoing emergency cesarean surgery. In contrast, 48.35±10.29 patients had pre-cesarean anxiety who undergoing elective surgery [according to HADS], and 73.61±5.31 had fear before emergency surgery, while 52.43±4.16 had before elective surgery [according to VSA-A] (p <0.0001.). In our study, a high level of anxiety was seen in patients undergoing emergency cesarean section compared to elective patients and supported by a study done in India by Hasha, S.S. [14]. The patient might have no time to decide whether to give birth by vagina or cesarean section. It leads to fear and more anxiety. In contrast, elective patients had a lower anxiety level than emergency patients. This study also showed that previous surgical and anesthetic exposure decreased preoperative anxiety more than patients without exposure, and another study supported this finding. The possible reason might be if patients had exposure to surgery and anesthesia, minimizing misconception and fear of the unknown complications. However, in some studies,

patients with previous surgical and anesthetic exposure had high anxiety levels.[15] The investigators justified that patients may develop stressful complications, such as death, due to last anesthesia and surgical exposures. Preoperative pain like prolonged labour, and scar pain was highly associated with preoperative anxiety. Patients with moderate to severe pain had higher anxiety than those with mild pain.[16]

Limitations of the Study

The study was conducted in a single hospital with a small sample size. So, the results may not represent the whole community.

Conclusion:

Every patient requiring surgery, whether elective or emergency, should be assessed for anxiety level in their routine preoperative anesthesia assessment. The patients found to have a high level of anxiety should be scheduled for an additional counseling session and medication if needed.

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Conflict of interest*:* None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

Recommendations

All patients who are scheduled for cesarean section delivery should be assessed for the level of anxiety in their routine preoperative anesthesia evaluation, whenever it is possible. Moreover, further studies should involve a larger sample size including multiple centers.

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