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Risk Factors of Perioperative Anxiety Levels in Sectio Caesarea Patients: A Cross-Sectional Study in Single Center, Bali, Indonesia

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A B S T R A C T

Introduction: Anxiety is a prevalent emotional response in patients undergoing surgical procedures, including cesarean sections. Perioperative anxiety can negatively impact patient outcomes, affecting physiological parameters and postoperative recovery. This study aimed to identify the prevalence and risk factors associated with perioperative anxiety levels in patients undergoing cesarean section at Prof. Dr. I.G.N.G. Ngoerah Hospital, Bali, Indonesia. **Methods:** This cross-sectional study involved 37 patients scheduled for elective cesarean section at Prof. Dr. I.G.N.G. Ngoerah Hospital. Anxiety levels were assessed using the Perioperative Anxiety Scale (PASS), a validated instrument for measuring anxiety related to surgery. Data on sociodemographic characteristics, obstetric history, and medical history were collected through a questionnaire. Descriptive statistics and logistic regression analysis were used to analyze the data. **Results:** The majority of participants (59.5%) experienced mild to moderate anxiety levels. Age, occupation, education level, history of emergency surgery, previous surgical history, and gravidity were identified as potential risk factors associated with higher anxiety levels. Patients aged 25-29 years, housewives, those with a high school education, a history of emergency surgery, previous surgical experience, and primiparity were more likely to report mild to moderate anxiety. **Conclusion:** Mild to moderate anxiety is prevalent among cesarean section patients. Identifying risk factors associated with perioperative anxiety can aid healthcare providers in implementing targeted interventions to reduce anxiety and improve patient well-being.

1. Introduction

The experience of childbirth, while often anticipated with joy and excitement, can also be a source of significant stress and apprehension for expectant mothers. This is particularly true in the case of cesarean section (CS), a major surgical procedure that involves delivering a baby through an incision in the abdomen and uterus. While CS is generally safe and often necessary to ensure the well-being of both mother and child, it undeniably introduces a layer of complexity to the birthing process, potentially triggering anxiety and fear in women approaching this surgical intervention. Anxiety, a natural human response to perceived threats or stressors, is characterized by feelings of worry, nervousness, and apprehension, often accompanied by physical symptoms such as increased heart rate, sweating, and difficulty concentrating. In the context of CS, anxiety can stem from a multitude of factors, ranging from concerns about the surgery itself and potential complications to worries about the baby's health and the overall birthing experience. This anxiety, when left unaddressed, can escalate into a significant psychological burden, negatively impacting the

mother's emotional well-being and potentially hindering her recovery process. Perioperative anxiety, referring to anxiety experienced before, during, or after surgery, is a well-recognized phenomenon in various surgical specialties. In the realm of obstetrics, perioperative anxiety has garnered increasing attention due to its potential impact on both maternal and neonatal outcomes. Studies have shown that elevated anxiety levels in pregnant women undergoing CS can lead to adverse physiological responses, such as increased blood pressure and heart rate, which may interfere with anesthesia and surgical procedures. Moreover, perioperative anxiety has been linked to poorer postoperative recovery, including increased pain perception, delayed wound healing, and a higher risk of postpartum depression.[1-4]

Understanding the factors that contribute to perioperative anxiety in CS patients is crucial for developing effective strategies to mitigate its impact and improve the overall surgical experience. These factors can be broadly categorized into individual, social, and medical domains. Individual factors encompass a woman's personality traits, coping mechanisms, and previous experiences with surgery or childbirth. Social factors include the support system available to the woman, cultural beliefs and expectations surrounding childbirth, and socioeconomic status. Medical factors encompass the woman's overall health status, the presence of any medical conditions or complications, and the specific circumstances surrounding the CS, such as whether it is planned or emergent. Among the individual factors, a history of anxiety disorders or previous negative experiences with surgery or childbirth can significantly predispose women to heightened anxiety levels during CS. Similarly, a lack of social support or a perceived lack of control over the birthing process can exacerbate anxiety. From a medical perspective, the presence of complications during pregnancy or the need for an emergency CS can understandably increase anxiety levels. Recognizing the multifactorial nature of perioperative anxiety in CS patients necessitates a comprehensive approach to its assessment and management. Healthcare providers, including obstetricians, anesthesiologists, and nurses, play a critical role in identifying and addressing anxiety in this vulnerable population. This involves actively engaging with patients, providing clear and empathetic communication, and offering appropriate psychological and pharmacological interventions when necessary.[5-7]

The first step in managing perioperative anxiety is to accurately assess its prevalence and severity. Various validated tools, such as the State-Trait Anxiety Inventory (STAI) and the Amsterdam Preoperative Anxiety and Information Scale (APAIS), have been used to measure anxiety levels in surgical patients. However, these tools may not fully capture the specific anxieties related to CS. The Perioperative Anxiety Scale (PASS), developed specifically for this purpose, assesses a wider range of anxieties related to anesthesia, surgical complications, and the overall surgical experience. Once anxiety levels have been assessed, healthcare providers can tailor interventions to meet the individual needs of each patient. These interventions may include providing detailed information about the CS procedure and addressing any misconceptions or fears, teaching relaxation techniques such as deep breathing and mindfulness, and offering psychological counseling or support groups. In cases of severe anxiety, pharmacological interventions, such as anxiolytic medications, may be considered in consultation with an anesthesiologist and psychiatrist. While numerous studies have investigated perioperative anxiety in CS patients in various settings, there remains a need for further research to explore the specific risk factors and effective interventions in diverse populations. This is particularly important in Indonesia, a country with a high CS rate and a diverse cultural landscape. Understanding the unique challenges and needs of Indonesian women undergoing CS can inform the development of culturally sensitive and effective strategies to manage perioperative anxiety.[8-10] This study aimed to contribute to this body of knowledge by investigating the prevalence and risk factors

associated with perioperative anxiety levels in patients undergoing elective CS at a single center in Bali, Indonesia.

2. Methods

This research employed a cross-sectional design to investigate the prevalence and risk factors associated with perioperative anxiety in patients undergoing elective cesarean section (CS). The study was conducted at Prof. Dr. I.G.N.G. Ngoerah General Hospital, a prominent tertiary referral hospital located in Denpasar, Bali, Indonesia. This hospital serves a diverse population and provides comprehensive obstetric and surgical care, making it an appropriate setting to explore the complexities of perioperative anxiety in the context of CS. The study period spanned from January 2024 to March 2024, allowing for the recruitment of a representative sample of patients undergoing elective CS during this timeframe. This specific timeframe was chosen due to the anticipated availability of a sufficient number of eligible participants, ensuring the feasibility of the study within the given resources and time constraints.

The study population comprised pregnant women who were scheduled to undergo elective CS at Prof. Dr. I.G.N.G. Ngoerah General Hospital during the study period. To ensure the homogeneity of the sample and minimize potential confounding factors, specific inclusion and exclusion criteria were carefully defined. The following inclusion criteria were applied to identify eligible participants; Age: Participants had to be 18 years of age or older to ensure their capacity to provide informed consent and comprehend the study procedures; Singleton Pregnancy: Only women carrying a single fetus were included to avoid potential confounding effects associated with multiple pregnancies on anxiety levels; Elective Cesarean Section: Participants were limited to those undergoing planned CS, excluding women undergoing emergency CS due to potential differences in anxiety levels associated with the urgency of the procedure; Cognitive Capacity: Participants had to demonstrate the ability to understand and complete the study questionnaires, ensuring the reliability and validity of the collected data. The following exclusion criteria were applied to ensure the integrity of the study and minimize potential biases; Psychiatric Disorders: Women with a history of any psychiatric disorder, including anxiety disorders, mood disorders, or psychotic disorders, were excluded to avoid potential confounding effects on the assessment of perioperative anxiety; Substance Abuse: Participants with a history of substance abuse, including alcohol or drug dependence, were excluded due to the potential influence of substance use on anxiety levels and psychological well-being; Inability to Provide Informed Consent: Women who were unable to provide informed consent due to cognitive impairment, language barriers, or any other reason were excluded to ensure ethical conduct and protect their rights. Recruitment of participants was conducted through a multi-faceted approach. Initially, obstetricians at the hospital were informed about the study and asked to identify potential participants among their patients who met the inclusion criteria. Subsequently, potential participants were approached by trained research assistants who provided detailed information about the study, including its purpose, procedures, and potential benefits and risks. Women who expressed interest in participating were then screened for eligibility based on the inclusion and exclusion criteria. Upon confirmation of eligibility, written informed consent was obtained from each participant before their enrollment in the study.

The sample size for this study was determined based on a power analysis, taking into consideration the estimated prevalence of anxiety in CS patients from previous studies and the desired level of precision. A minimum sample size of 37 participants was calculated to achieve a power of 80% and a confidence level of 95%, assuming a prevalence of mild to moderate anxiety of 50%. This sample size was deemed adequate to provide meaningful insights into the research question while considering the available resources and time constraints.

Data collection was performed through a combination of questionnaires and medical record reviews. This comprehensive approach allowed for the collection of both subjective and objective data, providing a holistic understanding of the factors associated with perioperative anxiety in CS patients. Two questionnaires were administered to each participant; Sociodemographic and Clinical Questionnaire: This questionnaire was designed to collect information on various sociodemographic and clinical characteristics that may influence anxiety levels. The questionnaire included items on age, occupation, education level, marital status, ethnicity, gravidity, parity, gestational age, history of previous CS, history of any medical conditions, including anxiety disorders, and history of previous surgeries; Perioperative Anxiety Scale (PASS): The PASS is a validated instrument specifically designed to measure anxiety related to surgery. It consists of 20 items that assess various aspects of anxiety, including fear of anesthesia, fear of complications, and worries about the surgical procedure. Each item is rated on a 5-point Likert scale, ranging from 1 (not at all) to 5 (very much). The total PASS score ranges from 20 to 100, with higher scores indicating higher levels of anxiety. Based on the total score, anxiety levels were categorized as follows; Mild anxiety: 20-40; Moderate anxiety: 41-60; Severe anxiety: 61-80; Very severe anxiety: 81-100. The questionnaires were administered to participants in a private and comfortable setting to ensure their privacy and minimize potential distractions. Trained research assistants were available to answer any questions and provide clarification as needed. Participants were encouraged to complete the questionnaires honestly and to the best of their ability. In addition to the questionnaires, the medical records of the participants were reviewed to obtain objective data on their medical history, obstetric history, and any relevant clinical information. This review was conducted by trained research assistants who were blinded to the participants' anxiety scores to minimize potential bias.

The collected data were analyzed using SPSS version 26, a statistical software package widely used in healthcare research. Descriptive statistics were used to summarize the sociodemographic and clinical characteristics of the participants, providing a comprehensive profile of the study sample. The prevalence of anxiety was calculated based on the PASS scores, providing an estimate of the proportion of participants experiencing different levels of anxiety. To identify potential risk factors associated with mild to moderate anxiety levels (PASS score ≥ 41), logistic regression analysis was employed. This statistical technique allows for the examination of the relationship between multiple independent variables and a binary outcome variable, in this case, the presence or absence of mild to moderate anxiety. Initially, univariate logistic regression analysis was performed for each potential risk factor to assess its individual association with anxiety. Variables with a p-value < 0.05 in the univariate analysis were then included in a multivariate logistic regression model to examine their independent effects while controlling for other potential confounders. Odds ratios (OR) and 95% confidence intervals (CI) were calculated to estimate the strength of association between the risk factors and anxiety levels. ORs greater than 1 indicate a positive association, while ORs less than 1 indicate a negative association. The 95% CI provides a range of values within which the true population OR is likely to lie.

Ethical considerations were of paramount importance throughout the study. The study protocol was reviewed and approved by the Ethics Committee of Prof. Dr. I.G.N.G. Ngoerah General Hospital, ensuring adherence to ethical guidelines and protecting the rights and well-being of the participants. All participants provided written informed consent before their enrollment in the study. The informed consent process involved providing detailed information about the study's purpose, procedures, potential benefits and risks, and the participant's right to withdraw from the study at any time without any consequences. Confidentiality of the

participants' data was maintained throughout the study by assigning unique identification numbers to each participant and storing the data in a secure location. The study adhered to the principles of beneficence, non-maleficence, respect for autonomy, and justice. Beneficence was upheld by aiming to generate knowledge that could potentially improve the care of CS patients. Non-maleficence was ensured by minimizing any potential risks or harm to the participants. Respect for autonomy was demonstrated by obtaining informed consent and allowing participants to withdraw from the study at any time. Justice was maintained by ensuring a fair and equitable selection of participants and access to any potential benefits arising from the study.

3. Results

Table 1 provides a descriptive overview of the sociodemographic and clinical characteristics of the 37 participants who enrolled in the study on perioperative anxiety in women undergoing elective cesarean section; Age: The majority of participants were relatively young, with 40.5% falling within the 25-29 age bracket. Over two-thirds of the participants were aged 34 or younger (81.1%). This suggests that the study sample primarily consisted of women of reproductive age, which aligns with the typical age range for undergoing cesarean sections; Occupation: More than half of the participants (56.8%) identified as housewives. This finding may reflect cultural norms in Bali, where women may be more likely to prioritize domestic responsibilities over pursuing careers outside the home. It's important to consider how this occupational status might relate to factors like social support, financial concerns, and overall stress levels, which could potentially influence anxiety; Education Level: The majority of participants (62.2%) had completed high school as their highest level of education. A notable finding is the absence of any participants with a college education. This distribution of education levels might be specific to the study setting and may not be generalizable to other populations. Education level can influence health literacy and understanding of medical procedures, which could play a role in anxiety levels; History of Previous Surgery: Nearly half of the participants (45.9%) had a history of previous surgery. This suggests that a significant proportion of the women had prior experience with surgical procedures, which could influence their perceptions and anxieties related to undergoing a cesarean section; History of Emergency Surgery: Almost a third of the participants (29.7%) had a history of emergency surgery. Previous experiences with emergency surgeries, which are often associated with higher stress and potentially traumatic memories, could contribute to increased anxiety surrounding planned surgical procedures like a cesarean section; Gravidity: Almost two-thirds of the participants (64.9%) were primigravida, meaning they were pregnant for the first time. First-time pregnancies can be associated with heightened anxiety due to the unfamiliarity of the experience and potential concerns about childbirth; Accompanying Diagnoses: A substantial proportion of participants (40.5%) had accompanying diagnoses in addition to their pregnancy. While the table doesn't specify the nature of these diagnoses, it indicates that a significant number of women had underlying health conditions. These comorbidities could potentially contribute to increased anxiety levels due to concerns about their impact on pregnancy and surgery.

Figure 1 illustrates the distribution of anxiety levels among the 37 participants in the study who were scheduled for cesarean section. The most striking finding is that over half of the participants (59.5%) experienced mild to moderate anxiety. This highlights that a significant proportion of women approaching a cesarean section experience a noticeable level of anxiety, though not necessarily at a severe or debilitating level. Nearly a quarter of the participants (24.3%) reported mild anxiety. This suggests that while anxiety is prevalent, for many women, it may be manageable and not significantly impact their overall well-being. 16.2% of participants fell into the moderate to severe anxiety category. This indicates that a smaller, but still important, portion of women

experience more significant anxiety that may require closer attention and potential intervention. It's noteworthy that no participants reported extreme levels of anxiety. This could suggest that women with extreme anxiety might have been excluded from the study due to the elective nature of the procedures, or that the support systems in place at the hospital helped to mitigate extreme anxiety.

Table 1. Sociodemographic and clinical characteristics of participants.

Characteristic	Frequency (n=37)	Percentage (%)
Age (years)		
18-24	5	13.5
25-29	15	40.5
30-34	10	27.0
≥ 35	7	18.9
Occupation		
Housewife	21	56.8
Private Employee	8	21.6
Government Employee	5	13.5
Others	3	8.1
Education level		
Elementary School	2	5.4
Junior High School	12	32.4
High School	23	62.2
College	0	0
History of previous surgery		
Yes	17	45.9
No	20	54.1
History of emergency surgery		
Yes	11	29.7
No	26	70.3
Gravidity		
Primigravida	24	64.9
Multigravida	13	35.1
Accompanying diagnoses		
Yes	15	40.5
No	22	59.5

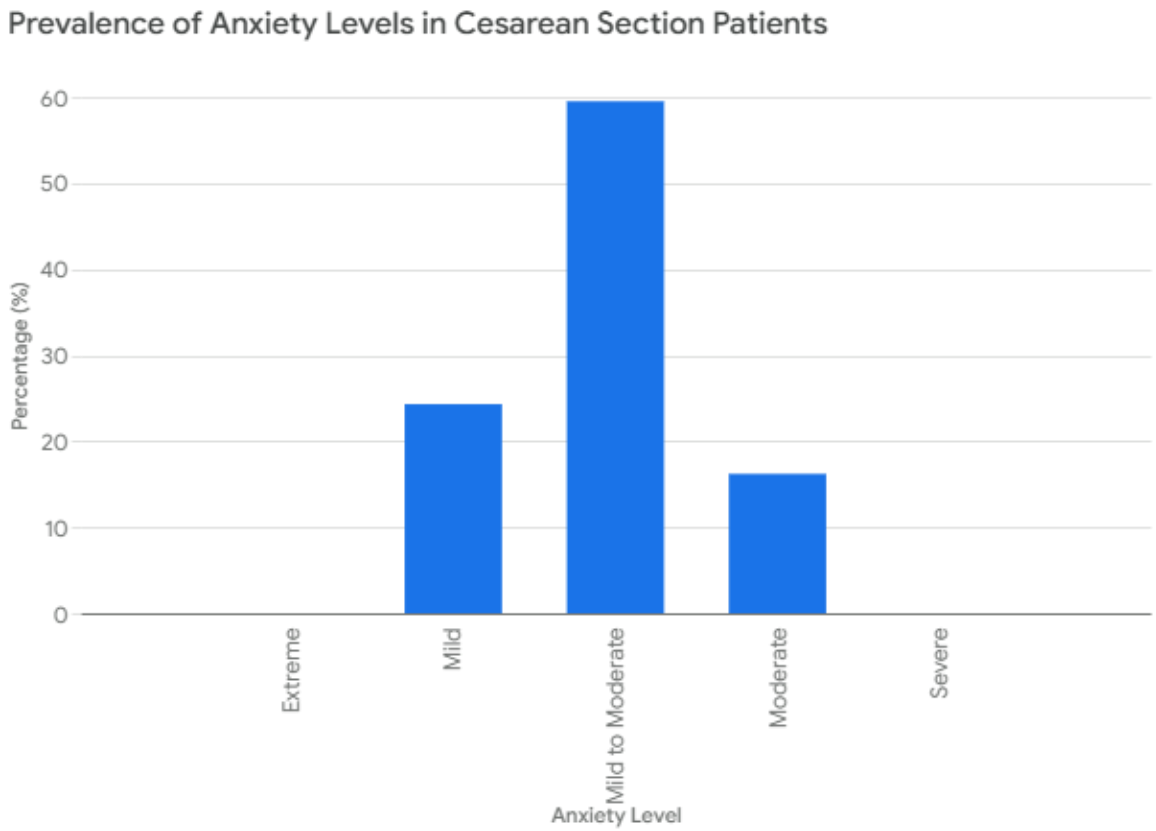

Figure 1. Prevalence of anxiety levels in cesarean section patients.

Table 2 presents the results of a logistic regression analysis, which was conducted to identify risk factors associated with moderate to extreme anxiety in women undergoing cesarean section. An odds ratio (OR) indicates the likelihood of an outcome (in this case, moderate to extreme anxiety) occurring in one group compared to another. An OR of 1 means there's no difference in likelihood between the groups. An OR greater than 1 means the outcome is more likely in the first group. An OR less than 1 means the outcome is less likely in the first group; Age: Women aged 25-29 were 3.33 times more likely to experience moderate to extreme anxiety compared to those aged 18-24 (p=0.03). This suggests that younger age within the typical childbearing years might be a risk factor for higher anxiety. The ORs for other age groups were not statistically significant, meaning there was no clear evidence of increased risk in those age ranges; Occupation: Housewives had a significantly higher likelihood (OR=4.50, p=0.01) of experiencing moderate to extreme anxiety compared to government employees. This might be related to factors associated with being a housewife, such as social isolation, financial dependence, or limited decision-making power. The ORs for other occupations were not statistically significant; Education Level: Women with a high school education were 5.67 times more likely to experience moderate to extreme anxiety compared to those with an elementary school education (p=0.02). This could indicate that higher education levels might correlate with increased anxiety, possibly due to greater awareness of potential complications or a tendency towards overthinking. The OR for junior high school education was not statistically significant; History of Previous Surgery: Women with a history of previous surgery were 3.60 times more likely to have moderate to extreme anxiety compared to those with no prior surgical experience (p=0.01). This suggests that previous surgical experiences, especially if negative, can contribute to heightened anxiety about

subsequent procedures; History of Emergency Surgery: A history of emergency surgery was also significantly associated with increased odds of moderate to extreme anxiety (OR=3.00, p=0.02). This finding aligns with the idea that emergency surgeries, often associated with trauma and unexpected complications, can lead to greater anxiety about future surgical interventions; Gravidity: Primigravida women (first-time mothers) were 2.86 times more likely to experience moderate to extreme anxiety compared to multigravida women (p=0.04). This highlights the potential for increased anxiety in first-time mothers due to the unfamiliarity and perceived risks associated with childbirth.

Table 2. Logistic regression analysis of risk factors associated with moderate to extreme anxiety.

Variable	Odds ratio (OR)	95% confidence interval (CI)	p-value
Age (years)			
18-24 (Reference)	1.00	-	-
25-29	3.33	1.47 - 23.65	0.03
30-34	2.00	0.28 - 14.29	0.49
≥ 35	2.67	0.38 - 18.67	0.33
Occupation			
Government Employee (Reference)	1.00	-	-
Housewife	4.50	2.51 - 39.68	0.01
Private Employee	2.25	0.25 - 20.25	0.48
Others	3.00	0.34 - 105.88	0.22
Education level			
Elementary School (Reference)	1.00	-	-
Junior High School	3.83	0.43 - 34.29	0.24
High School	5.67	2.63 - 51.00	0.02
History of previous surgery			
No (Reference)	1.00	-	-
Yes	3.60	1.64 - 10.56	0.01
History of emergency surgery			
No (Reference)	1.00	-	-
Yes	3.00	1.68 - 13.24	0.02
Gravidity			
Multigravida (Reference)	1.00	-	-
Primigravida	2.86	1.71 - 11.52	0.04

4. Discussion

The discovery that over half of the women in this study (59.5%) experienced mild to moderate anxiety levels prior to their cesarean sections serves as a powerful reminder that childbirth, even when planned and medically managed, is a profoundly emotional experience. This finding, while echoing similar observations in other studies, carries significant

weight as it underscores the pervasiveness of anxiety in this population. It challenges healthcare providers to move beyond a purely clinical approach to cesarean sections and embrace a more holistic perspective that acknowledges and addresses the emotional landscape of their patients. While the levels of anxiety observed in this study were primarily mild to moderate, it would be a mistake to underestimate their potential impact. Even seemingly manageable anxiety can cast a shadow over the entire surgical experience, coloring perceptions, influencing behaviors, and potentially hindering recovery. Anxiety has a well-established link to pain perception. When anxiety levels are elevated, the brain's pain processing pathways become more sensitive, leading to an amplified experience of pain. This means that women with mild to moderate anxiety may perceive the pain of the surgery and post-operative recovery as more intense and distressing. This heightened pain perception can, in turn, lead to increased reliance on pain medications, prolonged hospital stays, and a slower return to normal activities. Anxiety can also interfere with the effectiveness of anesthesia. When a person is anxious, their body releases stress hormones like adrenaline and cortisol, which can counteract the effects of anesthetic agents. This may result in increased awareness during the procedure, difficulty achieving adequate sedation, and a higher likelihood of experiencing discomfort or pain. Furthermore, anxiety can lead to increased heart rate and blood pressure, which can complicate anesthesia management and increase the risk of cardiovascular complications. Mild to moderate anxiety can extend its reach beyond the operating room, casting a long shadow on the post-operative recovery process. Anxiety can interfere with sleep, appetite, and motivation, hindering the body's natural healing mechanisms. It can also contribute to negative emotions like fear, worry, and sadness, which can impede emotional well-being and make it challenging to bond with the newborn. Moreover, anxiety can amplify the challenges of post-operative recovery, making it more difficult to manage pain, breastfeed, and care for the newborn, potentially leading to feelings of inadequacy and frustration. Studies have shown a link between pre-operative anxiety and an increased risk of developing postpartum mood disorders, such as postpartum depression and anxiety. This is likely due to the complex interplay of hormonal changes, psychological vulnerabilities, and the challenges of adjusting to motherhood. When anxiety is present before the birth, it can create a fertile ground for the development of more severe mood disturbances in the postpartum period, requiring specialized care and support. Childbirth is a landmark event in a woman's life, and the experience of a cesarean section can shape her memories and perceptions of this momentous occasion. When anxiety is present, it can cloud the joy and excitement of welcoming a new life, leaving a lingering sense of dissatisfaction or even trauma. Women with anxiety may focus more on the negative aspects of the experience, such as the pain, the fear, or the perceived loss of control, rather than the positive aspects of bringing a new life into the world. The high prevalence of mild to moderate anxiety in this study underscores the urgent need for healthcare providers to adopt a proactive approach to anxiety assessment and management in the context of cesarean sections. This means moving beyond simply treating the physical aspects of the procedure and embracing a more holistic model of care that acknowledges and addresses the emotional well-being of the patient. Integrating routine anxiety screening into prenatal care can help identify women who may be experiencing elevated anxiety levels. This allows for early intervention and targeted support, potentially preventing anxiety from escalating and impacting the surgical experience. Creating a safe and supportive environment where women feel comfortable discussing their fears and concerns is crucial. Healthcare providers should take the time to explain the CS procedure in detail, address any misconceptions, and answer questions patiently and empathetically. This can help alleviate anxiety by fostering a sense of understanding and control. Equipping women with practical tools to manage anxiety can empower them

to cope with the challenges of the surgical experience. This may involve teaching relaxation techniques such as deep breathing exercises, mindfulness meditation, or guided imagery. These techniques can help regulate the body's stress response and promote a sense of calm and well-being. For women with more significant anxiety or a history of anxiety disorders, referral to a mental health professional for counseling or therapy may be beneficial. This can provide a safe space to explore their anxieties, develop coping strategies, and address any underlying psychological vulnerabilities. In some cases, pharmacological interventions, such as anxiolytic medications, may be considered in consultation with an anesthesiologist and psychiatrist. These medications can help reduce anxiety levels and promote relaxation, but their use should be carefully weighed against potential risks and side effects. Ensuring continuity of care throughout the perioperative period can foster a sense of trust and security. Having a consistent healthcare provider who is attuned to the patient's emotional needs can make a significant difference in managing anxiety and promoting a positive surgical experience. Regular post-operative follow-up appointments should include an assessment of emotional well-being and screening for postpartum mood disorders. This allows for early identification and intervention for women who may be struggling with anxiety or depression after the birth. By implementing these strategies, healthcare providers can create a more supportive and compassionate environment for women undergoing cesarean sections. This not only improves the immediate surgical experience but also contributes to long-term emotional well-being and a smoother transition into motherhood.[11-15]

The identification of specific risk factors associated with moderate to extreme anxiety in this study provides a valuable roadmap for healthcare providers to navigate the complex landscape of perioperative anxiety in women undergoing cesarean sections. By understanding these risk factors, we can move beyond a one-size-fits-all approach and tailor interventions to meet the unique needs of each patient, ultimately promoting a more positive and empowering surgical experience. The finding that younger women within the typical childbearing age range (25-29 years) are more likely to experience moderate to extreme anxiety surrounding CS invites us to consider the unique challenges and vulnerabilities faced by this group. While childbirth is often associated with joy and anticipation, it can also be a time of significant transition and uncertainty, particularly for younger women who may be navigating the early stages of their careers, relationships, and personal development. Younger women may have less life experience in coping with stressful situations, including medical procedures. They may also have fewer opportunities to develop resilience and coping mechanisms, making them more susceptible to anxiety when faced with the uncertainties of surgery. For many young women, body image is a significant concern. The prospect of a surgical scar and the potential impact of CS on their physique can trigger anxiety and body image dissatisfaction. This is particularly relevant in a society where physical appearance is often emphasized and idealized. The transition to motherhood can be overwhelming, particularly for younger women who may feel unprepared for the responsibilities and challenges that lie ahead. Anxieties about their ability to care for a newborn, balance their personal and professional lives, and navigate the complexities of parenthood can contribute to heightened anxiety surrounding CS. Young women may face additional pressures from their families, peers, and society to conform to certain expectations surrounding childbirth. These pressures can create a sense of obligation to have a "perfect" birth experience, which can exacerbate anxiety when faced with the prospect of a surgical intervention. The association between being a housewife and increased anxiety may reflect deeper sociocultural factors that shape the experiences of women in the study setting. While the role of a housewife can be fulfilling and rewarding, it can also be associated with certain vulnerabilities that may contribute to anxiety. Housewives may have less exposure to the medical

field and a more limited understanding of surgical procedures compared to women who work in healthcare or other professional settings. This lack of familiarity can breed anxiety and fear of the unknown. Housewives often rely on their spouses or families for financial support and decision-making. This dependence can create a sense of vulnerability and lack of control, particularly when faced with a medical intervention like CS. Anxieties about the financial burden of surgery, the impact on family dynamics, and the ability to care for the newborn while recovering from surgery can all contribute to heightened anxiety. In some cases, housewives may experience social isolation due to limited interactions outside the home. This can lead to a lack of social support and a sense of loneliness, which can exacerbate anxiety and make it more challenging to cope with stressful situations. In many cultures, including the Balinese context, the role of a housewife is associated with specific expectations and responsibilities. These expectations can create pressure to conform to traditional gender roles and prioritize family needs over personal needs. This can lead to a sense of self-sacrifice and a diminished sense of control over one's own body and health, potentially contributing to anxiety surrounding CS. The finding that women with a high school education had higher anxiety levels compared to those with elementary school education challenges the assumption that higher education is always associated with better health outcomes. While education can empower individuals with knowledge and critical thinking skills, it can also increase access to information that may trigger anxiety, particularly in the context of medical procedures. Individuals with higher education levels may have greater access to information about potential complications and risks associated with CS. While this information can be empowering, it can also lead to increased worry and apprehension, particularly for those who tend to overanalyze or catastrophize. Higher education may foster a greater tendency towards critical thinking and analysis, which can be both a blessing and a curse in the context of anxiety. While it can help individuals make informed decisions, it can also lead to overthinking, rumination, and a heightened focus on potential negative outcomes. Individuals with higher education may have higher expectations for themselves and their experiences, including childbirth. This can create pressure to have a "perfect" birth experience, which can be challenging to achieve, particularly when faced with a surgical intervention. Women with higher education levels may delay childbearing to pursue their careers or personal goals. This can lead to increased anxiety surrounding pregnancy and childbirth due to concerns about age-related risks and complications. The experience of undergoing previous surgery, particularly if it involved complications or negative experiences, can understandably increase anxiety surrounding subsequent surgical procedures. This highlights the importance of addressing any prior surgical trauma or anxieties in patients with a surgical history to mitigate their impact on the current CS experience. Previous negative experiences with surgery, such as complications, pain, or prolonged recovery, can create negative associations with the surgical environment and medical procedures. These negative associations can trigger anxiety and fear when faced with another surgical intervention, even if it's a planned procedure like an elective CS. Even if previous surgeries were successful, the fear of the unknown can still contribute to anxiety. Patients may worry about potential complications, the effectiveness of anesthesia, or the impact of surgery on their body and their ability to care for their newborns. In some cases, previous surgical experiences may have been traumatic, particularly if they involved emergency procedures, unexpected complications, or near-death experiences. These traumatic memories can resurface when faced with another surgical intervention, leading to flashbacks, nightmares, and heightened anxiety. Emergency surgeries are often associated with heightened stress, unexpected complications, and a sense of lack of control. These experiences can leave a lasting impact on an individual's perception of surgery, making them more susceptible to anxiety when faced with another surgical intervention, even if

it's a planned procedure like an elective CS. Emergency surgeries often occur in the context of unexpected and potentially life-threatening situations. This can create a sense of trauma and loss of control, as patients may feel helpless and vulnerable in the face of medical intervention. Emergency surgeries are more likely to involve unexpected complications and unforeseen challenges. This can create a sense of uncertainty and fear about the outcome of the procedure, which can linger even after the surgery is successfully completed. The hospital environment itself can become associated with negative experiences and emotions for those who have undergone emergency surgery. The sights, sounds, and smells of the hospital can trigger memories of trauma and anxiety, making it challenging to approach a planned surgical procedure like CS with a sense of calm and confidence. First-time mothers often experience greater anxiety due to the unfamiliarity of childbirth, concerns about their ability to cope with labor and delivery, and worries about the well-being of their babies. The heightened anxiety observed in primigravida women underscores the need for comprehensive prenatal education and support to address their unique concerns and fears. The unfamiliarity of childbirth can be a significant source of anxiety for first-time mothers. They may have limited knowledge about the labor and delivery process, the potential complications, and the sensations they may experience. This fear of the unknown can lead to heightened anxiety and a sense of apprehension. Many first-time mothers worry about their ability to cope with the pain and intensity of labor and delivery. They may also have concerns about their ability to make informed decisions during the birthing process and advocate for themselves and their baby. The well-being of the baby is a paramount concern for all expectant mothers, but it can be particularly heightened for first-time mothers who may have limited experience with newborns and may be more susceptible to anxieties about their baby's health and development. Unlike multigravida women who have previously experienced childbirth, first-time mothers lack the reassurance and confidence that comes with prior experience. This can make them more vulnerable to anxiety and fear, as they navigate the uncharted territory of childbirth.[16-20]

5. Conclusion

This study illuminated the prevalence of mild to moderate anxiety (59.5%) among women undergoing elective cesarean section at a Balinese hospital. Several risk factors for heightened anxiety were identified, including younger age (25-29 years), being a housewife, having a high school education, a history of previous surgery (especially emergency surgery), and being a first-time mother (primigravida). These findings underscore the need for healthcare providers to be vigilant in assessing and addressing anxiety in this population. Integrating routine anxiety screening, providing tailored education and support, and offering psychological interventions are crucial steps toward improving the emotional well-being of women facing cesarean sections. By acknowledging the psychological impact of this procedure and proactively managing anxiety, we can contribute to a more positive and empowering childbirth experience. Further research with larger samples and diverse populations is needed to expand upon these findings and develop culturally sensitive interventions to optimize the emotional well-being of women undergoing cesarean delivery.

6. References

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