

# Antenatal Anxiety in Pregnant Women Undergoing Cesarean Section

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## ABSTRACT

**Objective:** frequency of antenatal anxiety in pregnant women undergoing cesarean section

**Methodology:** A total of 100 patients fulfilling selection criteria were enrolled in the study through OPD Department of Obstetrics & Gynaecology, Nishtar Medical University, Multan. Demographical information like age, gestational age and parity was recorded. All the cases were evaluated through The Hamilton Anxiety, rating scale (HAM-A) and positive cases (anxiety) were recorded on a pre-designed proforma as described in operational definitions. Severity of anxiety was also recorded. Patients with anxiety were managed as per standard protocols.

**Results:** In our study, of 100 cases, mean age as 30.45+5.02 years, mean gestational age was 39.35+1.17 weeks, mean parity was 2.34+0.93, mean Hamilton Anxiety Rating scale of the patients was 17.48+7.42 with minimum 3.00 and maximum 30.00. Frequency of anxiety status of the patients shows that 13(16.3%) had no anxiety, 29(36.3%) had mild, 20(25%) had moderate and 18(22.4%) had severe anxiety.

**Practical Implication:** determination of the antenatal anxiety in pregnant women undergoing cesarean section would help in the prevention and early management of anxiety in our population.

**Conclusion:** According to this study, 16.3% of pregnant women undergoing cesarean section had antenatal anxiety

**Keywords:** Pregnant women, cesarean section, elective, emergency antenatal anxiety, Hamilton Anxiety, rating scale

## INTRODUCTION

The process of becoming pregnant is a phenomena that brings about changes in a woman's body, mind, and social life. It is also a potential primary underlying cause of diseases like anxiety. One of the most prevalent psychological problems that may occur during pregnancy is anxiety, which can have a severe impact on both the mother's health and the health of the newborn.<sup>1-2</sup> A lower anxiety level is related with higher levels of oxytocin and prolactin, as well as lower levels of the stress hormone cortisol. These changes will result in greater milk supply and an easier sucking experience for the infant.<sup>3</sup> The higher the nutritional behaviour score of the infant, which includes the ability to sucking milk, will lead to more pleasant breastfeeding in the initial hours after delivery, in addition to many other advantages, both short-term and long-term, of breastfeeding.<sup>4</sup> According to Maldonado-Duran's research, which was cited by Dokuhaki et al., a mother's stress and unpleasant experiences during pregnancy may have a detrimental impact on the physical growth, motor-behavioral development, and psychological development of their unborn child.<sup>5</sup> In addition, babies born to mothers who did not form a strong relationship to their unborn child during pregnancy and who suffered from postpartum depression were more likely to have delayed cognitive and social development. In addition, Punamaki et al., who were cited by Dokuhaki et al., found that a mother's worry and a negative mood during pregnancy had a direct impact on the mood of the developing foetus.<sup>6</sup> In light of the fact that mother worry may have an effect on the newborn's development, psychological, and physiological variables,<sup>7</sup> as well as his or her feeding patterns, this research was created in order to investigate the topic.<sup>8</sup>

A few studies have shown that women who have prenatal mood and anxiety problems had greater rates of women undergoing caesarean sections. It is vital to determine and comprehend if prenatal mood and anxiety problems increase the risk of having a caesarean section. This is because caesarean births have both short-term and long-term health repercussions for both mothers and their babies.<sup>9</sup> Women who were diagnosed with perinatal mood and anxiety disorders during their delivery hospitalisation had higher caesarean section rates in the United States between 2006 and 2015, according to the findings of the biggest research ever conducted in the country, which used data from the National Inpatient Sample. This was contrasted to women who did not have such a diagnosis. (37.7 versus 32.7 per 100

deliveries, respectively).<sup>5</sup> Nevertheless, this research had a number of significant shortcomings. One of these was an inability to identify women with perinatal mood and anxiety disorders prior to the delivery. Another was a failure to make adjustments for other conditions that are known to increase the risk for caesarean section, such as abnormal placentation, multiple pregnancies, obesity, maternal age, and chronic conditions.<sup>9</sup> In addition, the research was unable to differentiate between main caesarean procedures and repeat caesarean sections. This is an essential difference since a history of a past caesarean section is seen as a medical rationale for a repeat caesarean operation. However, the analysis was unable to make this distinction. Other smaller studies conducted at a single location have also revealed greater rates of caesarean section among women who had perinatal mood and anxiety disorders<sup>10-14</sup>; however, the outcomes of these research have been inconsistent over the world.<sup>15</sup>

Mechanisms that could account for an underlying association between caesarean section and perinatal mood and anxiety disorders remain mainly a subject of hypothesis at this point. The relationship between caesarean section and perinatal mood and anxiety disorders has been studied extensively. Mechanisms or pathways that have been proposed include medical practise patterns that are used to manage maternal distress during pregnancy or labor, such as elective labour inductions or elective caesarean sections, or underlying associated placental dysfunction that results in a higher probability of foetal distress during labour. Both of these mechanisms and pathways are examples of ways that distress in the mother can be managed.<sup>12,14,16</sup> We would have a better grasp of the effects that perinatal mood and anxiety disorders have on health outcomes if we were able to shed light on the connection that exists between rates of primary caesarean section and perinatal mood and anxiety disorders. In turn, this information would have the potential to influence efforts to develop and assess effective therapies and policy initiatives, which would be a win-win situation.

As a result, we set out to investigate the link between perinatal mood and anxiety disorders and caesarean section so that the obstetricians and patients' attention be drawn to this illness in a timely manner for the purpose of its prompt care and the prevention of anxiety-related co-morbidities. In routine clinical practice antenatal anxiety is ignored as a complication inspite of relatively high prevalence. This will help us to manage

patients of antenatal anxiety in a better way and to improve the morbidity related to it.

**METHODOLOGY**

**Study Design:** Prospective descriptive cross sectional study  
**Sampling Technique:** Non-probability purposive sampling.  
**Sample Size:** A total of 100 pregnant women undergoing cesarean section.

After receiving clearance from the hospital's ethics committee and receiving informed consent from patients, the pregnant females who were at term and having caesarean section were included in the research. However, we excluded any instances that had previously been diagnosed with any kind of mental disorder and were receiving treatment for it. The information that was collected included demographic details like as age, gestational age, and parity. The Hamilton Anxiety Rating Scale (HAM-A) was used to assess each and every case, and a proforma was used to keep track of the patients that were determined to have anxiety. During the process of selecting pregnant ladies to undergo caesarean section, we screened the women to determine whether or not they suffered from anxiety. SPSS was used to do computations on the data that was obtained. Frequency and % was computed for categorical variables and chi square test was used to determine any significance in effect modifiers e.g. age, gestational age, parity and type of C.Section.

**RESULTS**

We recorded mean age as 30.53+4.77 years, mean gestational age was 39.36+1.18 weeks. Mean parity was 2.46+0.95. Mean BMI was 28.99+2.50. In our study 67(67%) had elective cesarean section whereas 33(33%) emergency cesarean section. Mean Hamilton Anxiety Rating scale of the patients was 19.61+7.33. The frequency of anxiety status of the patients shows that 11(11%) had no anxiety, 30(30%) had mild, 34(34%) had moderate and 25(25%) had severe anxiety.

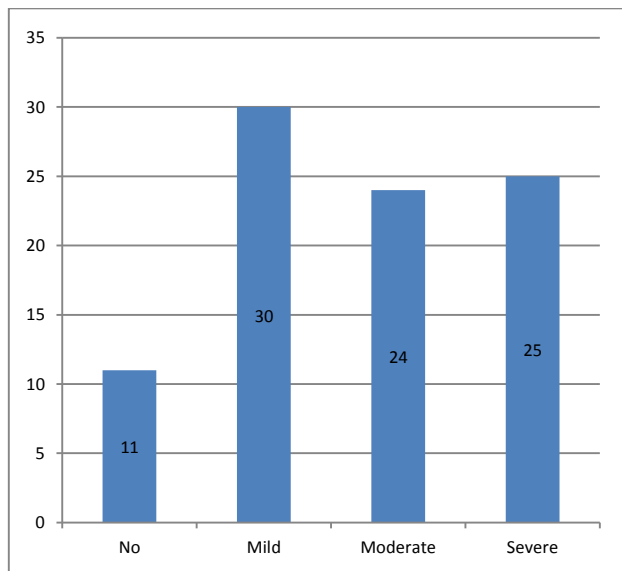


Fig. 1: Frequency of Antenatal Anxiety in Pregnant Women Undergoing Cesarean Section

Table 1: Frequency of Antenatal Anxiety in Pregnant Women Undergoing Cesarean Section According to Age

Age(years)	Anxiety				Total	P value
	No	mild	Moderate	severe		
20-30	5	20	16	14	55	0.402
	9.1%	36.4%	29.1%	25.5%	100.0%	
>30	6	10	18	11	45	
	13.3%	22.2%	40.0%	24.4%	100.0%	

Table 2: Frequency of Antenatal Anxiety in Pregnant Women Undergoing Cesarean Section According to Gestational Age

G.Age (weeks)	Anxiety				Total	P value
	No	mild	moderate	severe		
37-39	5	24	26	18	73	0.158
	6.8%	32.9%	35.6%	24.7%	100%	
>39	6	6	8	7	27	
	22.2%	22.2%	29.6%	25.9%	100%	

Table 3: Frequency of Antenatal Anxiety in Pregnant Women Undergoing Cesarean Section According to Parity

Parity	Anxiety				Total	P value
	No	mild	moderate	Severe		
1-3	5	16	20	16	57	0.727
	8.8%	28.1%	35.1%	28.1%	100%	
>3	6	14	14	9	43	
	14%	32.6%	32.6%	20.9%	100%	

Table 4: Frequency of Antenatal Anxiety in Pregnant Women Undergoing Cesarean Section According to C.Section

C.Section	Anxiety				Total	P value
	No	mild	moderate	Severe		
Elective	6	17	30	14	67	0.015
	9%	25.4%	44.8%	20.9%	100%	
Emergency	5	13	4	11	33	
	15.2%	39.4%	12.1%	33.3%	100%	

**DISCUSSION**

The results of a prior research showed that around fifty-five percent of patients having caesarean section showed signs of anxiety.<sup>17</sup> On the other hand, same results were found to be present in 88% of the patients in another investigation.<sup>18</sup> There is a major variance, and further clarification is required. The results of the second research are comparable to our findings.

The purpose of the research that Krishna Priyambada and others<sup>19</sup> conducted was to examine prenatal anxiety during all three trimesters of pregnancy. According to the findings, out of 169 pregnant women, 27.8% were in their first trimester, 40.8% were in their second trimester, and 31.4% were in their third trimester. 10.74+2.97, 11.69+3.09, and 14.20+3.10 were the respective mean scores for anxiety throughout the first, second, and third trimesters, respectively. The results of an independent t test indicated considerably greater anxiety ratings for the third trimester when compared to scores for the first trimester (t = -6.035, p value = 0.000). As a result, the researchers came to the conclusion that significantly higher prenatal anxiety occurs throughout the third trimester of pregnancy. However, it did not make any distinctions in the outcomes based on the trimester of the pregnancy.

Seied Kaboli Khadige and colleagues<sup>20</sup> conducted a study to assess the levels of stress, anxiety, and depression among pregnant women undergoing cesarean delivery at Bresat Hospital in Sanandaj. The study findings indicate that the overall rate of stress was 36.1% before the cesarean delivery and decreased to 13.9% after the operation. Similarly, the overall rate of anxiety was 58.9% before the cesarean delivery and decreased to 19.5% after the operation. The overall rate of depression was 35.5% before the cesarean delivery and increased to 21.7% after the operation.

A recent investigation<sup>21</sup> has disclosed that the stress level of the participants prior to the cesarean section procedure was 36.1%, with 16.7% experiencing low stress, 14.4% experiencing average stress, and 5% experiencing severe stress. Following the cesarean section, the stress level decreased to 13.9%, with 7.8% experiencing low stress, 5% experiencing average stress, and 1.1% experiencing severe stress. The findings are in agreement with the outcomes of a research conducted by Faramarzi and Pasha,<sup>22</sup> however, slightly higher than recorded in our study. Conversely, they do not align with the investigation carried out by Zareipour et al. (2017),<sup>23</sup> which documented a stress prevalence of 49.1% among expectant females.

A recent study<sup>24</sup> has assessed the association between antenatal depression (AD) and cesarean delivery (CD), but with insufficient corroborative evidence. The findings indicate that

17.7% of the participants reported experiencing AD, while 34% of them underwent CD. The study findings indicate that there was no statistically significant difference in CD based on the reported AD status, with an adjusted odds ratio of 1.04 and a 95% confidence interval ranging from 0.69 to 1.56. Nonetheless, notable dissimilarities were observed between individuals who reported AD and those who did not. These differences included lower levels of education, higher utilization of public insurance, participation in Women, Infants and Children (WIC) benefit programs, tobacco consumption, and pre-existing hypertension or diabetes prior to pregnancy.

According to the findings of another research conducted in 2018, which aimed to assess the prevalence of anxiety and depression symptoms as well as their postpartum course in women receiving ELCS in Wales, the prevalence of reported depressive symptoms was 14.3%.<sup>25</sup>

Another data<sup>26</sup> reveals anxiety prevalence was 19.5% in the first trimester. In the second trimester, it was 16.8%, with an incidence of 0.048%. In the third trimester, it was 17.2%, with an incidence of 0.068%. The following predictive factors of anxiety symptoms were identified: being a smoker, presence of previous illness and changes in social relationships. It was concluded that high incidence and prevalence of anxiety symptoms occur during pregnancy; consequently, applicable preventive policies should be developed.

Finally, we are of the view there is a possibility that prenatal anxiety, may occur at any time throughout pregnancy, is caused by a variety of causes, some of which are neuro-endocrinal and others of which are psychosocial. However, we did not address the various psychological and neuroendocrine aspects that play a role, and it also has a smaller sample size and does not use a longitudinal design for follow-up, both of which are limitations that might be addressed in further research.

## CONCLUSION

According to this study, 16.3% of pregnant women undergoing cesarean section had antenatal anxiety, however, moderate and severe anxiety were not more prevalent in our population.

**Conflict of Interest:** Nothing to declare

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