



## Original Research Article

## A comparative study to assess the prevalence of depression among postnatal mothers undergoing normal versus caesarean delivery

Shifa Junaidi<sup>1</sup>, Ayshath Safoorah<sup>1</sup>, Annie Rajaratnam<sup>1,\*</sup>, Anil Kakunje<sup>2</sup>

<sup>1</sup>Dept. of Obstetrics & Gynaecology, Yenepoya Medical College, Mangalore, Karnataka, India

<sup>2</sup>Dept. of Psychiatry, Yenepoya Medical College, Mangalore, Karnataka, India



## ARTICLE INFO

## Article history:

Received 13-10-2020

Accepted 23-11-2020

Available online 13-03-2021

## Keywords:

Postnatal depression

Normal delivery

Caesarean delivery

## ABSTRACT

**Background:** Among the women during the time of pregnancy and childbirth the most common psychiatric morbidity seen is post natal depression. In order to reduce the effect of delivery on the mental health of mothers and also to increase the quality of life among such mothers numerous scales have been developed and one of such scale is Edinburgh Postnatal Depression Scale (EPDS) which is considered to be reliable and effective in diagnosing mothers who are at risk for Post Partum depression.

**Materials and Methods:** The present comparative study was done at a tertiary care centre from December 2019 to February 2020. Study subjects were divided into two groups (Normal delivery and caesarean delivery) and a total of 40 study subjects were included in each group for the purpose of the study.

**Results:** Prevalence of postnatal depression measured by EPDS scale was high in caesarean sections compared to normal deliveries. In normal delivery group, 27.5% of subjects had postnatal depression and in caesarean group, 55% of subjects had postnatal depression. The p value was found to be significant for Post natal depression between both the groups.

**Conclusion:** In the present study it was concluded that the post natal depression was more among the subjects who underwent caesarean section when compared to those who underwent normal delivery.

© This is an open access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>) which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

### 1. Introduction

Among the women who have delivered, Post Natal Depression (PND) is considered to be one of the most common psychiatric morbidity. It affects almost 15% of the delivered women and is seen within 4 weeks after the delivery.<sup>1</sup> The occurrence of PND among the mothers is often missed and are denied of the treatment. In order to improve the quality of the life of the mother post delivery the obstetrician and paediatrician play a important role. The PND is considered to be 4<sup>th</sup> among all the depressive disorders by the World Health organization. The untreated cases proceed to chronic depression and interferences between the mother and child bonding can result in suicide and even Infanticide in rare occurrence.<sup>2,3</sup>

In order to assess the mothers who are at risk for post natal depression EPDS scale is considered to be more reliable, valid and efficient in identifying individuals who are at risk of developing PND among both normal and cesarean delivery.<sup>4</sup> Hence the present study was conducted to identify the prevalence of PND among the mothers and the risk compared between normal and cesarean delivery using EPDS scale.

### 2. Materials and Methods

The present comparative study was done at a tertiary care centre from December 2019 to February 2020. The prevalence was studied using Edinburgh postnatal depression scale score. Subjects with high score on depression scales where referred for psychological help. With the effect size of 0.674 at 5% level of significance

\* Corresponding author.

E-mail address: [annierajaratnam@yahoo.com](mailto:annierajaratnam@yahoo.com) (A. Rajaratnam).

& at 90% power of test sample size in each group was estimated as 40 subjects in each group using G\* Software. Hence a total of 40 subjects who underwent normal and 40 study subjects with cesarean delivery were selected for the purpose of the study.

Primiparity and multiparity mothers who had undergone caesarean or normal delivery with a live child upto 7<sup>th</sup> day of delivery and who were able to speak English / Kannada / Malayalam & were willing to participate in the study were included.

The mothers who had a previous history or presently under medications for any kind of psychiatric illness and pregnant women with IUD and still birth born babies were excluded from the study. A written informed consent was obtained from all the subjects who were included in the study. The EDPS scale contains a total of 10 items and each point has a four point scale. A total score of more than 13 and above is considered to be a significant risk of PND, a score between 10 to 12 indicates borderline cases and 9 or below indicates normal.

Data was entered into Microsoft excel data sheet and was analyzed using SPSS 22 version software. Categorical data was represented in the form of frequencies and proportions. Chi-square test was used as test of significance for qualitative data. p value <0.05 was considered as statistically significant after assuming all the rules of statistical tests.

### 3. Results

In the present study 40 subjects were enrolled in each group. In both the groups majority of them were aged between 20 to 30 years and multiparous in nature. The p value was found to be significant when compared between both the groups for age and parity. (Table 1)

**Table 1:** Baseline characteristics

	Normal Delivery	Caesarean Delivery	P value
<b>Age</b>			
<20	2	0	0.355
20-30	28	30	
>30	10	10	
<b>Parity</b>			
Primiparity	16	14	0.644
Multiparity	24	26	

Among mothers who delivered normally the depression was 27.5% and 55% among mothers delivered through caesarean and the association was found to be statistically significant.(Table 2)

The reasons for depression in caesarean group, 25% wanted normal delivery and 30% due to post operative pain and reasons for depression in normal group, 12.5% due to episiotomy pain and 15% due to sleep disturbances / feeding

**Table 2:** Comparison of prevalence of postnatal depression between two study groups in study population

Prevalence of Postnatal depression	Normal (N-40)	Caesarean (N-40)	Total
Present	11 (27.5%)	22 (55%)	33 (41.25%)
Absent	29 (72.5%)	18 (45%)	47 (58.75%)

$$\chi^2 = 6.241, df = 1, p = 0.012^*$$

problems.(Table 3)

**Table 3:** Reasons for depression

Caesarean	Number	Percentage
Wanted normal delivery	10	25%
Postop pain	12	30%
<b>Normal delivery</b>		
Episiotomy Pain	5	12.5%
Sleep disturbances / Feeding problems	6	15%

In the normal delivery group, 15% of primigravida had depression and 12.5% of multigravida had depression. In caesarean group, 27.5% of primigravida had depression and 27.5% of multigravida had depression. (Table 4)

In normal delivery group, EDPS score was 13 to 20 in 10%, 10 to 12 in 17.5% and 0 to 9 in 72.5%. In caesarean group, EDPS score was 13 to 20 in 25%, 10 to 12 in 30% and 0 to 9 in 45%. There was a significant difference in EDPS score between two groups. (Table 5)

Subjects in the age group <20 years, 5% had depression in normal group and none in caesarean group. Subjects in the age group 20 to 30 years, 17.5% had depression in normal group and 40% in caesarean group.

Subjects who are aged more than 30 years depression was seen in 5% who underwent normal group and 15% in caesarean group. On comparing between age group and depression in both the groups it was found that age group of 20 to 30 years was found to be significant and other age groups were found to insignificant. (Table 6).

### 4. Discussion

The post-partum depression was found to be more among the mothers who had delivered through caesarean when compared with mothers delivered through normal vaginal delivery at 7 days after the delivery. This difference was found to be statistically significant with p value of 0.012.

Among the study subjects who underwent caesarean the most common depressive characteristics was found that they wanted to have a normal delivery and followed by pain during the post-operative period. Whereas among those who underwent normal delivery episiotomy pain, feeding problems and sleep disturbance were found to be a major reason for depression.

**Table 4:** Association between parity with depression between two groups

	Normal delivery		Caesarean delivery		P value
	Count	%	Count	%	
Primigravida with depression	6	15%	11	27.5%	0.171
Multigravida with depression	5	12.5%	11	27.5%	0.093

**Table 5:** Comparison of EDPS score between two groups

EDPS Scoring	Normal delivery		Caesarean delivery	
	Count	%	Count	%
13-20	4	10%	10	25%
10-12	7	17.5%	12	30%
0-9	29	72.5%	18	45%

$\chi^2 = 6.46$ ,  $df = 2$ ,  $p = 0.039^*$

**Table 6:** Association between Age groups with depression between two groups

Age groups with depression	Normal delivery		Caesarean delivery		P value
	Count	%	Count	%	
<20	2	5%	0	0%	0.152
20-30	7	17.5%	16	40%	0.026*
>30	2	5%	6	15%	0.136

The findings of our study were similar to the study findings of Rauh et al.<sup>5</sup> who also opined that post natal depression was more common among the mothers who underwent cesarean when compared to mothers who had normal vaginal delivery. Even the EPDS score was found to be more for LSCS when compared to normal vaginal delivery. In another study done by Mahishale AV and Bhatt J et al.<sup>6</sup> the prevalence of post natal depression was found to be 21.7% among women who underwent LSCS and 8.23% among mothers who had delivered through vaginal route.

## 5. Conclusion

In the present study it was concluded that the post natal depression was more among the subjects who underwent caesarean section when compared to those who had a normal delivery.

EPDS scores also reflected the higher percentage of depression seen among the caesarean sections than normal delivery indicating that pregnant mothers who are undergoing the same needs effective and proper counselling along with suitable medications and a good physical and mental environment during the pregnancy and even after the delivery from the family and the Doctors.

## 6. Source of Funding

None.

## 7. Conflict of Interest

None.

## References

- Ullangula BP, Daniel VS, Nirusha K. A Comparative Study to Assess the Level of Postnatal Depression among LSCS and Normal Delivery Mothers in Selected Hospitals at Guntur. *Int J Sci Res.* 2017;6(9):1173–7.
- Dinesh P, Raghavan S. A comparative study of prevalence of postnatal depression among subjects with normal and caesarean deliveries. *Int Arch Integr Med.* 2018;5(2):6–11.
- Safari S, Bahadoran P, Oreizi HR. Meta-analysis of the role of delivery mode in postpartum depression (Iran 1997-2011). *J Educ Health Promot.* 2014;3(1):118. doi:10.4103/2277-9531.145924.
- Sit DK, Wisner KL. The identification of postpartum depression. *Clin Obstet Gynecol.* 2009;52(3):456–68.
- Rauh C, Beetz A, Burger P, Engel A, Häberle L, Fasching PA, et al. Delivery mode and the course of pre- and postpartum depression. *Arch Gynecol Obstet.* 2012;286(6):1407–12. doi:10.1007/s00404-012-2470-8.
- Mahishale AV, Bhatt JA. Comparison of level of depression among mothers with lower segment caesarean section and vaginal delivery: Cross-sectional study. *J Sci Soc.* 2017;44(1):15–9. doi:10.4103/0974-5009.202547.

## Author biography

**Shifa Junaidi**, Final Year Post Graduate

**Ayshath Safoorah**, Senior Resident

**Annie Rajaratnam**, Associate Professor

**Anil Kakunje**, Professor and HOD

**Cite this article:** Junaidi S, Safoorah A, Rajaratnam A, Kakunje A. A comparative study to assess the prevalence of depression among postnatal mothers undergoing normal versus caesarean delivery. *Indian J Obstet Gynecol Res* 2021;8(1):100-102.