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To Compare The Anxiety In Patients Undergoing Caesarean Section And Vaginal Delivery in and around Meerut City.

Dr Bhardwaj Priyanka[1], Dr Choudhary Sandeep [2], Dr Sudarsanan (Brig) S[3], Dr. Sharma Sachin[4],

1- Assistant Professor , Department Of Psychiatry, RUHS CMS Medical College Jaipur
2- HOD & Professor , Dept of Psychiatry, Subharti Medical College
3- HOD & Professor, Dept of Psychiatry, Subharti Medical College
4- Consultant Psychiatrist
Corresponding Author: Dr Bhardwaj Priyanka

Abstract
Context- *Mode of delivery is considered to be an important factor in maternal experience.* ***A****nxiety symptoms are commonly manifested during pregnancy and in the postpartum period, at times it is affected by the Various mode of deliveries .*
Objectective*- To assess & Compare Anxiety in women following caesarean section and vaginal delivery.*
Methods*- Study was conducted in the of Department of Obstetrics and Gynaecology, C.S.S. Hospital, attached to the Subharti Medical College, Meerut. Two groups were formed, group A consisted of subjects undergoing elective Cesarean Section and group B consisted of subjects undergoing vaginal delivery. Hamilton's Anxiety Rating Scale (HAM-A) was administered on the subjects four times. Before delivery, immediately after delivery, 3 days after delivery and one month after delivery. After collecting data appropriate statical tools were used*
Results & Conclusions*- When HAM-A scores were compared between two groups there was no significant difference between the group.*
Keywords: *Cesarean Section, Vaginal Delivery , Postpartum anxiety*

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I. Introduction

Pregnancy and Postpartum period comes with various changes like biological, psychological and interpersonal in the lives of women. When a women fails to adapt to major life transition psychological state develops.

Several Psychiatric Morbidities that female develop during Pregnancy and Postpartum period are Postpartum Blues, Postpartum Mood Disorders, Anxiety disorders, Depression and Psychosis.

Anxiety symptoms appears to be common Manifestation after Child Birth.[1] It is important as Maternal anxiety impairs maternal functioning, leads to significant distress and may seriously disturb mother Infant interactions resulting in various outcomes ranging from maternal Neglect and Failure to thrive to Infanticide.[1]

In Pregnant and Postpartum mothers the most common Anxiety disorders are Panic Disorders, Generalized Anxiety Disorders, Obsessive Compulsive Disorders and on rare instances Post Traumatic Stress Disorders.

Anxiety in the postpartum period is poorly understood including the knowledge of risks and Predisposing factors.[2] Mode of delivery is considered to be an important factor in maternal experience. Spontaneous vaginal deliveries result in the elevation of mood and self-esteem, whereas women with CSs are more prone to mood deterioration, decrease in self-esteem, feelings of guilt, and puerperal depression.An early study found that women delivering by elective caesarean section were more likely to experience anxiety and postpartum depression than those delivering vaginally.[2]

Many studies in the past were carried out to find the occurrence of postpartum depression with vaginal delivery. There are not many studies focused on the associated with the mode of delivery. Hence, this study was carried out to compare the Anxiety associated with vaginal delivery and elective caesarean section

II. Material And Methods

The Present Study was carried out in the Department of Obstetrics and Gynaecology, C.S.S. Hospital, a tertiary care centre attached to the Subharti Medical College, Meerut. Two groups were formed, group A consisted of 50 subjects (elective Cesarean Section), group B (vaginal delivery) . Full term delivery subjects were included. Patients suffering from co-morbid major medical or surgical illness , substance abuse before pregnancy. cognitive impairment before delivery, co morbid psychiatric illness before delivery, any past history of psychiatric illness, unwilling and uncooperative patients were excluded. Informed consent was taken from two groups. After obtaining the Approval from ethical Committee and informed consent from the subject Subjects in both groups were thoroughly evaluated on the semi- structured proforma. Hamilton's Anxiety Rating Scale (HAM-A) administered on the subjects four times. Before delivery, immediately after delivery, 3 days after delivery and one month after delivery. Information so gained and data so collected were subjected to suitable statistical analysis (mean, standard deviation, t test) using Microsoft Excel and conclusions were drawn.

III. Results

In the present study most of the subjects in Vaginal Delivery group(52%) belonged to 19-22 years group and in Cesarean Section group (42%) subjects belonged to 23- 26 year group. Most of the females from both groups were Muslims with Vaginal delivery 58% and Cesarean Section 60%, most of them were Illiterate with Cesarean section 44% and Vaginal Delivery 36% .Most of the females in both groups were unemployed. Females of both the groups lived in joint family belong to Upper Lower Socioeconomic Class.Majority of females of both the groups were Multiparous as Vaginal Delivery 56% and Cesarean Section 50%

Table-1 Distribution According to Age & Z score for double sample proportion test

Age group (years)	Caesarean section (N=50)	Vaginal delivery (N=50)	Z_{Cal}	$Z_{.01}$	P Value
19-22	18(36%)	26(52%)	1.677	2.58	NS
23-26	21(42%)	16(32%)	0.1041	2.58	NS
27-30	11(22%)	8(16%)	.76697	2.58	NS

Table-2 Distribution According to Religion and Z score for double sample proportion test

Religion	Mode Of Delivery		Total	Z_{Cal}	$Z_{.01}$	P Value
	Vaginal Delivery	Cesarean Section				
Muslims	29(58%)	30(60%)	59 (59%)	.20338	2.58	NS
Hindu	21(42%)	20(40%)	41(41%)	.20338	2.58	NS

Table-3 Distribution According to Education and Z score for double sample proportion test

S.no	Education	Numbers		Total	Z_{Cal}	$Z_{.01}$	P Value
		Vaginal delivery	Cesarean section				
1	Profession or Honours	0	0	0	0	2.58	NS
2	Graduate or Post Graduate	2(4%)	3(6%)	5	0.45882	2.58	NS
3	Intermediate or Post high School diploma	3(6%)	7(14%)	10	1.34454	2.58	NS
4	High School Certificate	12(24%)	11(22%)	23	0.2377	2.58	NS
5	Middle School Certificate	14(28%)	6(12%)	20	2.0418	2.58	NS
6	Primary School Certificate	1(2%)	1(2%)	2	0	2.58	NS
7	Illiterate	18(36%)	22(44%)	40	0.82687	2.58	N

Table-4 Distribution According to Occupation and Z score for double sample proportion test

S.no	Occupation	Numbers		Total	Z_{Cal}	$Z_{.01}$	P Value
		Vaginal delivery	Cesarean section				
1	Profession or Honours	1(2%)	3(6%)	4	1.0259	2.58	NS
2	Semi – Profession	0	0	0	0	2.58	NS
3	Clerical ,Shop-owner, Farmer	0	4(8%)	4	2.086	2.58	NS

4	**Skilled worker**	**1(2%)**	**0**	**1**	**1.01274**	**2.58**	**NS**
5	**Semi –Skilled worker**	**0**	**0**	**0**	**0**	**2.58**	**NS**
6	**Unskilled worker**	**7(14%)**	**7(14%)**	**14**	**0**	**2.58**	**NS**
7	**Unemployed**	**41(82%)**	**36(72%)**	**77**	**1.96**	**2.58**	**NS**

Table 5 – Distribution according to family income and Z score for double sample proportion test

Monthly Income in thousan(k)	Cesarean section	Vaginal delivery	Z_{Cal}	$Z_{.01}$	P Value
1k-3k	8(16%)	9(18%)	.27267	2.48	NS
4k-6k	28(56%)	31(62%)	.6111	2.58	NS
7k-9k	14(28%)	8(16%)	1.46385	2.58	NS
10k-12k	0	2(4%)	1.4415	2.58	NS

Table 6-Distribution according to their Socio-Economic Status

Socioeconomic class	Cesarean Section	Vaginal Delivery	Z_{Cal}	$Z_{.01}$	P Value
Upper	0	0	0	-	-
Upper Middle	1(2%)	0	1.01274	2.58	NS
Lower Middle	18(36%)	19(38%)	0.2071	2.58	NS
Upper Lower	25(50%)	21(42%)	0.80525	2.58	NS
Lower	6(12%)	10(20%)	1.09785	2.58	NS

Table 7 Distribution according to Parity and Z score for double sample proportion test

Parity	Cesarean section	Vaginal delivery	Z_{Cal}	$Z_{.01}$	P Value
Primi	25(50%)	22(44%)	0.80281	2.58	NS
Multi	25(50%)	28(56%)	0.80281	2.58	NS

Table- 8 Distribution according to Family Type and Z score for double sample proportion test

Family Type	Caesarean section (N=50)	Vaginal delivery (N=50)	Z_{Cal}	$Z_{.01}$	PValue
Nuclear	6(12%)	12(24%)	1.58114	2.58	NS
Joint	44(88%)	38(76%)	1.58114	2.58	NS

Table – 9 Mean and S.D. of HAM-A Scores in Cesarean Section and Vaginal Delivery

S.NO	RATING SCALE	MEAN±SD	
		CESAREAN SECTION	VAGINAL DELIVERY
1	HAM- P0*	14.8±1.65	15.06±1.202
2	HAM-P1*	15.14±2.26	15.32±2.590
3	HAM-P2*	16.25±3.23	16.08±3.25
4	HAM-P3*	15.40±2.59	14.85±3.44

(P0- Before delivery, P1- immediately after delivery, P2- 3 days after delivery , P3- 1 month after delivery)
Mean HAM- A scores, before delivery, immediately after delivery, 3 days after delivery and 1 month after delivery in caesarean group were 14.8, 15.14, 16.25, 15.40 respectively. The corresponding figures in the vaginal delivery group are 15.06, 15.32, 16.08, and 14.85 respectively.

During pregnancy none of the subjects from either group showed score above 17. In early postpartum period (immediately after delivery and 3 days after delivery) in caesarean group 8 (16%) out of 50 and 16(33.3%) out of 48 showed score above 17. In late postpartum period (one month after delivery) 10 (20%) out of 42 showed score above 17. In vaginal delivery group, 9(26%) out of 50 and 15(31.91%) out of 47 showed score above 17 in early postpartum period where as in late postpartum period 9 (22.5%) out of 40 showed score above 17.

Table – 10 comparision of HAM-A Score b/w Cesarean section and vaginal delivery by unpaired "t" test

S.no	Rating scale	Probability of unpaired "t" test b/w cesarean section and vaginal delivery	P – value/significance	
			P- value	Significance
1	HAM – P0*	0.3709	P>0.01	NS
2	HAM-P1*	0.712	P>0.01	NS
3	HAM-P2*	0.80936	P>0.01	NS
4	HAM- P3*	0.41465	P>0.01	NS

P0- Before delivery, P1- immediately after delivery, P2- 3 days after delivery , P3- 1 month after delivery).
There was no statistically significance between the two groups.

IV. Discussion

The present study was aimed to compare the psychiatric morbidity associated with mode of delivery. A total of 100 subjects were included, after fulfilling inclusion and exclusion crieteria,of which 50 were under went Caesarean section and rest 50 delivered vaginally. All subjects were assessed four times, once before delivery, immediately after delivery, 3 days after delivery and one month after delivery.

In Caesarean group, 3 days after delivery two subjects were lost to follow up and 8 subjects dropped off after one month. Whereas in Normal delivery 3 subjects dropped off during third assessment and 10 subjects dropped off at one month follow up.

In Present study the mean age of female who underwent caesarean section was 23.68 ±3.07 and vaginal delivery was 22.94± 2.98. Similarly, in the study by Shaily Minal et al [3], mean age was 23.46 ± 3.13. Sankapithilu GJ, et al[4]found that mean age group of normal delivery was 24.30 +3.82 and caesarian section 23.46+3.59.

In present study most of the females were illiterate or have studied till high school. Similar findings were reported by Sankapithilu GJ et al.[4] As our hospital is in the outskirts of Meerut and majority of patients are from a rural background.

It was observed that the female from both the groups were mostly housewives followed by unskilled workers and Farmers. Sankapithilu GJ et al[4] reported that most of them were house wives (45%), thirty percent of them were laborers. Asil Goker et al[5]& Prabhu et al[6] in their study, reported similar finding

Most of the patients from both belong to upper lower followed by lower middle and lower class. Similar findings were reported by Sakapithilu GJ et al[4].

In the current study, most of the patient were in the joint family, similar findings were reported by other studies, (Sankapithilu GJ et al [4] and Chandran et al [7])

None of Patient fulfilled syndromal criteria for anxiety disorders

In our study, early postpartum period (immediately after delivery and 3 days after delivery) in caesarean group 16% and 33.3% experienced anxiety symptoms. In late postpartum period (one month after delivery) 20% experienced anxiety symptoms. In normal delivery group, 26% and 31.91% experienced anxiety in early postpartum period where as in late postpartum period 22.5% reported anxiety symptoms. The scores in our study lies in the range of previous studies.[8,9,10]

During the second and third assessment (immediately after delivery and 3 days of postpartum period) a significant percentage of females from both groups experienced anxiety. The mothers who have manifest anxiety are influenced by the event of pregnancy. They have just experienced a stressful life event and a major life transition in which they have to adapt. The link between environmental stressors and development of anxiety disorder has been well established .[11]

After 1 month, the symptoms of anxiety dropped as it was anticipated. Women returned home to their daily routines and their temporal anxiety was reduced. However, for a significant percentage of women from both groups, anxiety persisted in 1 month.

The comparison of HAM – A Scores b/w caesarean section and vaginal delivery by unpaired "t" test was done and it was found that there was no significant difference between the two groups

Thalassinos M et al carried Longitudinal prospective of 156 in-patient women at the Maternity department of Louis Mourier hospital, near Paris. These women were divided into three groups: 52 with normal delivery, 63 with caesarean section and 41 with gynaecological surgery. Seventeen per cent of the women who had delivered suffered from baby-blues. The figure for anxiety (De Bonis scale > or = 20) was 23% in the 1st group, 41% in the 2nd group and 54% in the 3rd group. The figure for mood disturbances (according to DSM III criteria) was 4% in the 1st group, 16% in the 2nd group and 21% in the 3rd group. There was no significant difference between the 3 groups in figures for anxiety and depression during the first 3 months after delivery or surgery.[12]

V. Conclusions

In present study when HAM-A scores were compared between two groups there was no significant difference between the group. There were no cases of OCD, Panic disorder, PTSD. This finding was in agreement with the other studies. In the present study subjects were advise to follow up after one month if any of the psychiatric symptoms are present. The symptomatic patient recovered quickly, indicates the resilience of the rural population who were the subjects of study. Small sample size of 100 sample was limitation of study.

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