

ASSOCIATION BETWEEN MODE OF DELIVERY AND PSYCHOLOGICAL STRESS AMONG PRIMI IN POSTPARTUM PERIOD

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Abstract

Background: Childbirth is a complex event and the process of delivery is stressful for most of the women. Although viewed as uniformly happy, the rapid psychophysiological changes during birth may render it stressogenic. About 85% of postpartum women experience some mood disturbance, which is usually short-lived and remits spontaneously. A considerable number of women are likely to suffer from more enduring symptoms subsequently manifested in various postpartum psychiatric illness. The aim of this study is to establish the association between mode of delivery and psychological stress in postpartum period in Primi mothers. For assessing the psychological stress in Primi mothers I have opted the Perceived Stress Scale (PSS-10) which is most widely used psychological instrument for measuring the perception of stress. It is a measure of the degree to which situations in one's life are appraised as stressful. **Materials and Methods:** This is a single centric cross-sectional study which was conducted at Primary Health Centres (PHCs) related to Gandhi Medical college and Hospital, Hyderabad. Study was conducted for duration between 2020-2021 among the mothers who visited PHC along with their child for regular immunization. Total of 200 Primi mothers were included in the study after obtaining informed consent from them. The subjects were asked the PSS-10 questionnaire and the data was collected in the proforma. Inclusion Criteria: Primi mothers with healthy babies in first 6 months of postpartum period, Age > 18. Exclusion Criteria: Multipara mothers, mothers who delivered preterm babies or babies with health issues, Mothers with comorbid conditions. **Results:** Out of (N=200) subjects in the present study, N1=72 (0-13, mild stress -19(26.39%) and 14-26, moderate stress- 52(72.22%) and >27, severe stress -1(1.39%)) subjects gave birth through Normal Vaginal Delivery (NVD) and N2=128(0-13, mild stress-17(13.30%),14-26, moderate stress-102, (79.70%) and severe stress-9(7%) subjects gave birth through Lower Segment Caesarian Section (LSCS). The PSS-10 Score was observed to be higher among the mothers who underwent LSCS compared with the mothers who underwent NVD. Especially the moderate stress levels (14-26) were higher. The P Value – 0.02, is significant. **Conclusion:** In the present study, perceived psychological stress in the postnatal period is higher in Primi mothers who delivered through LSCS compared with Primi mothers who delivered through NVD. Even though the sample size is not equal among two groups, the P value is stating that Perceived Stress among LSCS delivered Primi mothers is higher. Psychological stress management intervention (counselling) should be a part of routine health check-up in Primi mothers who delivered through LSCS, for postnatal well-being of the mother as well as baby and family.

INTRODUCTION

Childbirth is a complex event. Process of delivery is stressful for most of the women. Although viewed as uniformly happy, the rapid psychophysiological

changes during birth may render it stressogenic. About 85% of postpartum women experience some mood disturbance, which is usually short-lived and remits spontaneously.^[1,2] A considerable number of women are likely to suffer from more enduring symptoms subsequently manifested in various

postpartum psychiatric illness.^[3,4] Psychological disturbance in the mother can impair her functioning and wellbeing but also the mother-infant bond.^[5,6] The transition and adaptation to new demands, roles, responsibilities, and changes in relationships can be stressful, especially for first-time mothers. In addition, new mothers typically encounter physiological changes and struggle with concerns about weight gain, body image, sexuality, and other physical difficulties such as fatigue.^[7] These problems may generate or exacerbate stress and lead to an actual or perceived crisis.^[8] and psychological distress.

For assessing the psychological stress in this study, The Perceived Stress Scale (PSS-10) score was opted [0-13(MILD STRESS),14-26(MODERATE STRESS),>27(SEVERE STRESS)].^[9]

Objectives

1. To measure the level of stress in primi mothers in postnatal period using perceived stress scale-10(PSS-10)
2. To determine the association between the mode of delivery [Normal vaginal delivery (NVD) and Lower Segment Caesarian Section (LSCS)] and level of stress in primi mothers in their postnatal period.

MATERIALS AND METHODS

Study Design: Cross-Sectional study

Sample size: 200 Primi mothers in first 4 months of postnatal period

Place of Study: Primary health centres and Immunization centres under Gandhi Hospital

Duration of study: January 2021- January 2022

Inclusion Criteria

Age 18-30years, Primi mothers in first 4 months of postnatal period, Primi mother who gave birth to healthy baby.

Exclusion Criteria

Multipara, Mother with co-morbid conditions, Primi who delivered preterm baby or baby with health issues, Age <18 and >30.

Approval was taken from Institutional Ethical committee. The study was done in 200 primi mothers who visited Immunization centres under Gandhi Medical College and Hospital, Hyderabad with their newborns for regular vaccination i.e., in

their 6 months of postnatal period. Subjects were explained about the study and informed consent was taken. A pre-designed questionnaire consisting of identification data and personal history, was given to the mothers (educated) or orally data was collected from mothers(uneducated). The mothers in whom inclusion criteria are met were taken into the study and a thorough questioning was done to rule out the exclusion criteria. After giving clear idea about Perceived Stress Scale and how she should analyse and tick the questions, the mother was provided(educated) with the Perceived Stress Scale questionnaire (PSS-10) or orally questioned (uneducated) from the PSS-10 questionnaire. The filled form was collected and stress score was calculated for each mother.

Data was statistically analysed using Chi-square test in Microsoft Excel.

Parameters

The following parameters were analysed

- The percentage of perceived stress levels in these 200 primiparous mothers in postpartum period.
- To determine the association between mode of delivery and level of perceived psychological stress in them.

Statistical Analysis

In the statistical analysis, categorical variables were expressed in percentages and frequencies, whereas continuous data was presented in mean and standard deviation. A Chi-square test was used wherever it is applicable. A p-value of <0.05 was considered significant for analysis.

RESULTS

A total of 200 primi mothers were selected for the study of whom 72 were Normal vaginally delivered and 128 were lower segment Caesarean section delivered. The study was done to determine the effect of mode of delivery on psychological stress in Primi mothers. The results were subjected to statistical analysis and shown in tabular form.

Table1: shows the Anthropometric data of the subjects with Mean Age(years)

25.7±4, Mean Height(cms) 56.16±6.07 and Mean Weight (Kgs) 156.8±6.25.

Table 1: Anthropometric data of the subjects (n=200)

| | MEAN±SD |
|---------------------|----------------|
| AGE (years) | 25.7±4 |
| HEIGHT (cms) | 56.16±6.07 |
| WEIGHT (Kgs) | 156.8±4.25 |

Table 2: Association between Mode of delivery and Levels of PSS Score in primi mothers

| TYPE OF DELIVERY GRADING | Grading of PSS Score | | | Total |
|--------------------------|----------------------|--------|-------|---------|
| | 0-13 | 14-26 | >27 | |
| NVD | 19 | 52 | 1 | 72 |
| | 26.39% | 72.22% | 1.39% | 100.00% |
| LSCS | 17 | 102 | 9 | 128 |
| | 13.30% | 79.70% | 7.00% | 100.00% |
| Total | 36 | 154 | 10 | 200 |
| | 18% | 77% | 5% | 100% |

$\chi^2 = 7.665883$

df=2

p value= 0.02

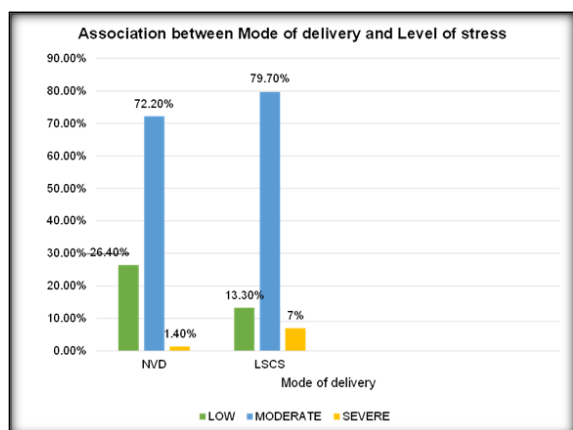


Figure 1: Association between mode of delivery and Level of Stress

The above figure shows the histogram or bar diagram. The Statistically significant association was seen between the variables ($p < 0.05$). The primi mothers who delivered through natural or normal vaginal delivery have low levels of perceived stress compared to the primi mothers who delivered through Lower segment Caesarean section.

DISCUSSION

It is known that most women after delivery have lot of mood disturbances which is known as Postnatal psychosis. Many reasons have been researched for this like Physiopsychological changes, hormonal changes, managing house, spouse and new born. But there are less studies showing the association between mode of delivery and psychological stress in postnatal period especially in Primigravida. One study done during 2012 states that “Women who had obstetric interventions (i.e., Caesarean or instrumental vaginal) had higher psychological distress following childbirth than women who had natural or vaginal delivery. It has been hypothesized that caesarean involves disruption of the normal labor physiology and the hormonal environment and oxytocin deficiency.^[11] Other related hormones that are mediators of stress reactivity, which peak in labor, such as cortisol, could be dysregulated in caesarean delivery.^[12] Caesarean sections have become increasingly common in developed and developing countries. Our findings support recommendations of

the American College of Obstetricians and Gynecologists (ACOG) to minimize any unnecessary obstetric intervention in birth (American College of Obstetricians and Gynecologists 2017).

Limitations of the study

The main limitations of this exploratory study include the cross-sectional design and small sample size.

The perceives stress scale (PSS-10) used in this study is subjective.

CONCLUSION

In this study, PSS-10 score in the postnatal period is higher in Primi delivered through LSCS compared with Primi delivered through NVD. Even though the sample size is not equal among two groups, the P value is stating that PSS among LSCS delivered Primi is higher.

Psychological stress management intervention(counselling) should be a part of routine postnatal health check-up in Primi delivered through LSCS, for postnatal well-being of the mother, baby and family.

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