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Original Research Article

Birth satisfaction among women delivered at government tertiary care hospital at Puducherry: does quality of care matter

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ABSTRACT

Background: The objective of this study was to assess the birth experiences of the women delivering at Indira Gandhi Medical College and Research Institute and to compare the satisfaction scores in different modes of delivery and among women with different parity status.
Methods: Prospective cross-sectional observational study was conducted after availing ethical clearance and informed consent, among 230 women going through delivery at Indira Gandhi Medical College and Research Institute, obstetrics and gynaecology department. The women were administered birth satisfaction scale-revised indicator and made to score from 0-2. The demographic details of the patient and the type of delivery along with their parity were also included.
Results: Amongst the 230 women, who participated in the study, 111 were primiparas and 70.4% of the women underwent normal vaginal delivery. The average score in women undergoing normal delivery was 8.91, with caesarean section having an average score of 8.73. Multiparous women had an average score of 8.81 compared to primiparas women, who had an average score of 8.90.
Conclusions: The study finding concludes that the birth satisfaction among women who delivered at the tertiary care hospital was good and might helpful to the practitioners and administrators to further improving the quality of care. To develop counselling services for child birth to have a positive experience and respectful maternity care.

Keywords: Birth Satisfaction scale, Caesarean section, Vaginal delivery

INTRODUCTION

Women's experience during the intrapartum period, and the level of satisfaction with the care they received have gained increased importance in recent times.[1] The meaning of birth satisfaction is diverse and may take on many forms.[2] The satisfaction indicates the female consent of childbirth experience during labor, delivery, and immediately after the childbirth, which can be evaluated according to the mother's understanding of care, the degree of personal control and support as well as medical interventions.[3] Women appears to be satisfied when they are in control over their birth process and involved in their care and in decision making: they value sensitive respectful and shared relationship with healthcare professionals ensuring women-centred care.[4-7] Measuring birth satisfaction tells us how a women feels about her birth experience, which requires us to take into consideration her personal wants and needs within confines of safety and cost.[2] Levels of birth satisfaction can affect the mental health of both mother and infant, with the negative experience of having the potential to reduce

mother infant attachment, reduce willingness to breastfeed, instigate infant neglect/abuse result in post natal depression, post-traumatic stress disorder. This in turn led to request for future elective LSCS or abortion.[8] Birth satisfaction is influenced by social and cultural structure of religions. As India is the country of contrast, with many languages spoken across states and union territories, currently there are limited methods of measuring birth satisfaction in vernacular languages also administering questionnaire in one's own language might cover the experience of their lives. To our knowledge no studies have been conducted in Puducherry to find out the birth satisfaction and quality of care as perceived by women who delivered at a government institution. Hence the aim of this study was to find out the level of birth satisfaction among women who delivered at our institution and quality of care provided by the health care professionals.

METHODS

Materials and methods

Prospective cross-sectional study was conducted from April 2023 to September 2023 among women delivered at the Indira Gandhi Medical College and Research Institute, Puducherry, an institution run by the Government of Puducherry, India.

Inclusion and exclusion criteria

Inclusion criteria were all women who delivered at our hospital irrespective of mode of delivery in their post-natal period (day 1 to day 10) during the study period (2 months) with age more than 18 years who can understand and respond to Tamil language. Mothers age less than eighteen with major postpartum complications or known psychiatric illness and who have not given consent to participate and cannot understand Tamil language were excluded.

Sample size and sampling technique

A minimum sample size of 175 would be need as suggested using a Monte Carlo simulation study by Martin and Martin.[9] As suggested by the author of the scale. However, a formula was used to arrive at a sample of 230. Convenient sampling technique was used to collect data from the women who delivered and data were collected between 1 and 10th day of delivery availing consent to participate in this study. A brief explanation about the objectives of the study and the confidentiality and anonymity of their responses were given prior to questionnaire administration.

Study instrument and description

Birth satisfaction scale (BSS) was developed by Martin and Fleming in 2011 with 30 items in English and later it was restricted to a 10 item BSS-R by Martin and Martin in 2014.[2,10] BSS-RI was introduced by Martin et al in 2017 with six items covering stress and quality of care was used to collect data in this study.[11] It consists of six items divided into two dimensions namely stress (4 items) and quality of care (2 items). The items in the tool were translated with author's permission and necessary translation methodology such as forward and back translation were employed. The content validity was established using CVI with the help of experts in the field.

Table 1: Items of the BSS-RI in English.

BSS-RI items	English
BSS-RI 1	I was not distressed at all during labour[a]
BSS-RI 2	I felt very anxious during my labour and birth[b]
BSS-RI 3	I felt well supported by staff during my labour and birth[a]
BSS-RI 4	I found giving birth a distressing experience[b]
BSS-RI 5	I felt out of control during my birth experience[b]
BSS-RI 6	The staff communicated well with me during labour[a]

Statistical analyses

A 3-point scoring system with higher scores representing greater birth satisfaction (range 0-2) was considered. The items in the BSS-RI were further divided into 'a-items'. and 'b-items' with a distinct scoring system for each ('a' items- "agree" =2, "agree to some degree" =1, "disagree" =0; 'b' items- "agree" =0, "agree to some degree" =1, "disagree" =2). Items were scored on a 3-point Likert scale, with three of the items were reverse-coded (item BSS-RI 2, BSS-RI 4, and BSS-RI 5). Total scores and subscales scores can range as follows: BSS-RI: 0-12, stress of childbearing: 0- 8, and quality of care: 0-4, with higher total scores indicating greater levels of birth satisfaction. A score of 9-12 on the BSS-RI was considered as satisfied, 5-8 was regarded as neutral and 0-4 was considered as dissatisfied.

The data collected were analysed by descriptive and inferential statistics and the findings were presented in frequency and mean. A p value of <0.05 was considered as significant and all the analysis was done using SPSS 24.

Ethical consideration

The study was approved by the institutional ethics committee with reference number 489/IEC-37/IGMC&RI/PP-40/2023.

RESULTS

Socio-demographic characteristics of women delivered

As can be seen from the Table 2 that, all (100%) the respondents are married and the mean age was 26.20±4.52. Majority of the participants had a college degree (38.7%)

and only 5.2% were not having formal education or illiterate. Most of the women were from urban area (63.0%) and rural women were contributed to 37.0%. The results further revealed that almost 86.1% of the respondents were unemployed and the distribution of women who delivered normally and caesarean section were 70.4% and 29.6% respectively.

As can be seen from the Table 3, the item scores on domains were within the normality, as Kline advises that skew values >3 and kurtosis >10 are indicative of data non-normality.[12]

The mean birth satisfaction score among women undergone normal delivery was 8.91±1.97, whereas the mean birth satisfaction score among women undergone caesarean section was 8.73±1.74, there was no statistically significant difference found on birth satisfaction between them p=0.51. The mean stress domain score among women undergone normal delivery was 5.36±1.92, whereas the mean stress domain score among women undergone caesarean section was 4.92±1.78, there was no statistically significant difference found on birth satisfaction between them p=0.10. The mean quality of care score among women undergone normal delivery was 3.54±0.87 whereas the mean quality of care score among women undergone caesarean section was 3.80±0.48, there was a statistically significant difference found on birth satisfaction on quality-of-care domain p=0.02, as women undergone caesarean section were reported that the quality of care was more satisfactory.

Table 2: Distribution of respondents by bio-demographic data (n=230).

Variables	Frequency	Percentage
Age in years		
<25	89	38.7
≥25	141	61.3
Education		
Illiterate	12	5.2
High school	49	21.3
Secondary	70	30.4
Graduate	89	38.7
Post graduate	10	4.4
Residence		
Urban	145	63.0
Rural	85	37.0
Work status		
Not working	198	86.1
Working	32	13.6
Gravida		
Primi	111	48.3
Multi	119	51.7
Delivery		
Normal	162	70.4
Cesarean	68	29.6

Table 3: Domain characteristics of BSS-RI.

BSS-RI item	BSS-RI Item content	Domain	Mean±SD	Skew	Kurtosis
BSS-RI 1	I was not distressed at all during labour	Stress	1.42±0.73	-0.85	-0.63
BSS-RI 2	I felt very anxious during my labour and birth	Stress	1.60±0.64	-1.40	0.74
BSS-RI 3	I felt well supported by staff during my labour and birth	Quality	1.87±0.40	-2.37	7.11
BSS-RI 4	I found giving birth a distressing experience	Stress	1.03±0.88	-0.06	-1.72
BSS-RI 5	I felt out of control during my birth experience	Stress	1.16±0.80	-0.31	-1.40
BSS-RI 6	The staff communicated well with me during labour	Quality	1.75±0.62	-2.28	3.53

Table 4: Mean BSS-RI scores for different attributes with standard deviation included in parentheses.

Variables	Normal delivery (n=162)	Caesarean section (n=68)	P value	Primiparas (n=111)	Multiparas (n=119)	P value
BSS-RI (total)	8.91 (1.97)	8.73 (1.74)	0.519NS	8.90 (1.90)	8.81 (1.92)	0.708
BSS-RI (stress)	5.36 (1.92)	4.92 (1.78)	0.109NS	5.36 (1.83)	5.10 (1.93)	0.298
BSS RI (QC)	3.54 (0.87)	3.80 (0.46)	0.021	3.54 (0.90)	3.70 (0.64)	0.109

P value is based on t test.

The mean birth satisfaction score among primi gravida was 8.90±1.90 whereas the mean birth satisfaction score among multi gravida was 8.81±1.92, there was no statistically significant difference found on birth satisfaction between them p=0.70. The mean stress domain score among primi gravida was 5.36±1.83 whereas the mean stress domain score among multi gravida was 5.10±1.93, there was no statistically significant difference found on birth satisfaction between them p=0.29. The mean quality of care score among primi gravida was 3.54±0.90 whereas the mean quality of care score among multi gravida was 3.70±0.64, there was no statistically

significant difference found on birth satisfaction between them p=0.10.

Table 5: Spearman's rho correlations between birth satisfaction scale-revised indicator (BSS-RI) total scores and sub-scale.

Scale	BSS-RI (stress)	BSS-RI (QC)
BSS_RI total	0.920**	0.131*
BSS-RI (stress)		-0.228**

All correlations statistically significant at p<0.001* and p<0.05**

As there was a statistically significant difference found on birth satisfaction on quality-of-care domain p=0.02, the data were subjected to further analysis by excluding multiparas women who had undergone LSCS. The analysis revealed that there was no statistically significant difference in the birth satisfaction among women p>0.05, for BSS-RI total, BSS-RI (stress) and BSS-RI (QC). (Figure 1).

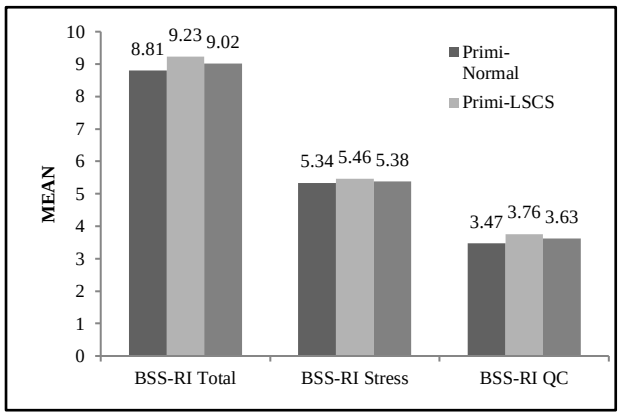

Figure 1: Mean for BSS-RI total, BSS-RI (stress) and BSS-RI (QC) based on parity and type of delivery.

Spearman's rho correlations between birth satisfaction scale-revised indicator (BSS-RI) total score, sub-scale scores showed that there was a statistically significant correlation found between BSS-RI total score and BSS-RI-SE (stress) r=0.92, BSS-RI-QC (quality of care) r=0.13. There was a negative correlation found between BSS-RI-SE and BSS-RI-QC r=-0.2 (Table 5).

DISCUSSION

It was observed that there was no difference in Birth satisfaction between women of <25 and ≥25 years and the overall level of birth satisfaction were high which were comparable to study conducted at Tamil Nadu, India by Madhumitha and Kirubamani and were comparable to study conducted at south Delhi, India by Gandhi et al revealing 61.1% of women reported good birth satisfaction and with a study conducted at Chhattisgarh, India by Jha et al found women had good birth satisfaction.[13-15] A study conducted at Tamil Nadu India by Marimuthu and Murugan also revealed similar findings that more than 85% of women had good birth satisfaction.[16] A study by Murry et al also found moderate level of birth satisfaction among women.[17]

The results also revealed that there was no statistically significant difference observed in the total birth satisfaction score between women who underwent cesarean section and who underwent normal delivery and similar results were found in a study conducted at Bihar by Youkta and Paramanik.[18] This findings was contradictory to a study conducted at Tamil Nadu by Marimuthu and Murugan found that there was a statistically significant difference between women who underwent cesarean section and who underwent normal delivery.[16] However, we found that there was a statistically significant difference found between cesarean section and women who underwent normally delivery in the quality of care domain. The difference found in the quality of care domain between women who underwent normal and caesarean section was attributed to the inclusion of multiparous women who underwent elective LSCS due to the fact that they were prepared mentally for LSCS, so we tried to exclude them and the further analysis revealed that there was no statistically significant difference in the birth satisfaction among women p>0.05 for BSS-RI total, BSS-RI (stress) and BSS-RI (QC). Marginally low mean scores in BSS total scores found among primi women with normal delivery might be due to prolonged duration of labour. Also due to the fact that fear of childbirth negatively influences the childbirth satisfaction of women who have vaginal births.[19-21] Marginally high mean on BSS-RI (QC) domain among primi women who undergone LSCS could be due to the fact that these women who were having largest duration labour and in maximum contact with the health care professionals.

The main limitation of this study was the minimum period of study and not including elective and emergency sections status during the data collection process. The data were collected at only one institution where as including multiple government institution might give a clear picture on birth satisfaction as perceived by the women who delivered.

CONCLUSION

The study finding concludes that birth satisfaction among women who delivered at the tertiary care hospital was good and might helpful to the practitioners and administrators to further improving the quality of care. The finding also helpful to develop counselling services for child birth to have a positive experience and respectful maternity care.

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