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Original Research Article

BSSRI - A Study of Women's Birth Experiences using the Birth Satisfaction Scale–Revised Indicator (BSS-RI) as a Quality Assessment Measure

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Abstract:

Background: The BSSRI is a valid, reliable and an easy tool to evaluate birth satisfaction among postpartum mothers in a health care facility.

Methods: A prospective cross-sectional study was conducted at the Obstetrics and Gynecology department of Apollo Institute of Medical Sciences and Research Hyderabad, India. The six item Birth Satisfaction Scale-Revised Indicator 'BSS-RI' tool was used. Pregnant women with singleton pregnancy who were willing to participate and give consent were included in study.

Results: A total of 206 women completed the 6-item BSS-RI. The total score of all items of BSSRI score was 8.67 with SD of 2.102. Mean age of the participants in our study was 25.33years. In our study BSS-RI scores was not associated with age of the women, period of gestation, parity, type of onset of labour, booking status and gender of the baby. Eighty-nine women had emergency LSCS and 38 (42.7%) of them had scores more than 9. P value was found to be 0.006 so BSSRI score was significantly associated with mode of delivery of patients.

Conclusion: BSSRI is a valid and reliable tool which is also easy to administer. All obstetric care providers should measure satisfaction with childbirth using the BSS-R in order to understand how to improve the childbirth experiences.

Keywords: Childbirth, Birth Satisfaction, Questionnaire.

Introduction

Maternal and child health has been a priority public health issue for decades. The quality of intra-partum care in most low- and middle-income countries is poor, and this is identified as one of the precursors to the high maternal mortality rate in low- and middle-income countries.[1] A recent document by WHO "Intra-partum care for a positive childbirth experience" has emphasized the importance of women's positive experience of childbirth.[2] Women who are satisfied with their child-birth experience are more likely to adhere to health providers' recommendations and utilize health facility for delivery and this provides a means of secondary prevention of maternal mortality.

Improving intra-partum obstetric care results in good perinatal outcomes. In order to measure women's satisfaction with childbirth a valid, reliable and multidimensional tools is important. The use of questionnaires is an effective way of assessing patient experience of childbirth.[3] Since 2011, Questionaries were developed and modified to assess women's' satisfaction with childbirth. The initial Birth Satisfaction Scale (BSS) was developed by Martin & Fleming in 2011, as a self-report questionnaire.[4] This initial BSS was developed in English Language and comprised of 30-items. This was then followed by the BSS-R (Birth satisfaction score revised scale) which consisted of 10-item assessing three domains: Quality of Care, Women's Attributes and Stress Experienced.[5] A simpler scale 'The Birth Satisfaction Scale-Revised Indicator'(BSS-RI) was later developed by reducing the number of items.[6] The BSS-RI consists of 6 items divided into two domains: Stress of

Childbearing (4 Items), and Quality of Care (2 Items). It could be easily administered and was found to have outstanding psychometric properties. (Martin et al., 2017; Omani-Samani et al., 2021).[6]

The BSS-RI scale is currently recommended by the International Consortium for Health Outcomes Measurement (ICHOM) for measuring childbirth experiences.[7] ICHOM recommends that all obstetric care providers worldwide should measure satisfaction with childbirth using the BSS-R in order to provide a positive birth experience. The BSS-R has been used in 39 countries and 134 sites worldwide in 2020.[8]

Methodology

A prospective cross-sectional study was conducted at the Obstetrics and Gynecology department of Apollo Institute of Medical Sciences and Research Hyderabad India, after obtaining ethical clearance. Written consent was obtained to participate in the study. Two hundred and six women who delivered over a period of three months were included in the study. Data collection was carried out in the labour and postnatal wards and confidentiality was maintained during the process of study. The collected data were reviewed and checked for mistakes, legibility of handwriting, completeness, consistency and any mistake or ambiguity were cleared by principal investigator and supervisors. The survey was done by interview method within 10 days after the women delivered in the post-natal ward. The six item Birth Satisfaction Scale-Revised Indicator 'BSS-RI' tool was used. (Table 1)

The items in the BSS-RI are further split into 'a-items' and 'b-items'. Items 'a' were grouped under'stress during labour and 'b' items were grouped under quality-of-care provision during labour. Individual items were scored as-

Items 1, 3, 6 were scored as 0, 1, 2 for 'Disagree', 'Agree to some degree', 'Agree'.

Items 2, 4, 5 were scored in reverse order as 2, 1, 0 for 'Disagree', 'Agree to some degree', 'Agree'.

Table 1: BSS-RI 'Birth Satisfaction Scale Revised Index'

Item No.	Items	Domain
1.	I was not distressed at all during labour	Stress (a)
2.	I felt very anxious during my labour and birth (R)	Stress (a)
3.	I felt well supported by staff during my labour and birth	Quality (b)
4.	I found giving birth a distressing experience (R)	Stress (a)
5.	I felt out of control during my birth experience (R)	Stress (a)
6.	The staff communicated well with me during labour	Quality (b)
R- Reverse coded items		

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 scores indicating greater levels of birth satisfaction.[9] A score of 9-12 on the BSSRI was regarded as satisfied, 5-8 is regarded as neutral and 0-4 is considered as dissatisfied.[10] The questionnaire was translated into Telugu, Urdu and Hindi for easy understanding of our patients.

Inclusion Criteria

1. Pregnant women who are willing to participate and give consent.
2. Women with singleton pregnancy.

Exclusion Criteria

1. Women with severe hypertension, uncontrolled diabetes, severe anemia, pre-labour rupture of membranes, fever and respiratory illness.
2. Women with growth restricted fetus or anomalous baby, Preterm birth, still birth or newborn with poor APGAR scores or needing NICU admission.
3. Women who had major obstetric hemorrhage.

Sample Size: Standard deviation of the BSSRI satisfaction score is 2.9, Precision is 0.4 with 95% Confidence Interval (CI), required sample size is 202.

Statistical Analysis: Mean, SD, Proportion & Percentages were calculated for the variables & outcomes were studied. Chi square test was used to study associations of birth satisfaction with other variables. P value 0.05 was considered to be significant. SPSS version 24.0 was used for all statistical analysis.

Results

A total of 206 women completed the 6-item BSS-RI. Association of BSS-RI scores with age of the women, period of gestation, parity, type of onset of labour, mode of delivery, booking status and gender of the baby were analyzed. (Table 3) In addition, the BSSRI scores between factors of stress (the 'a' items) and quality of care (the 'b' items) were also compared. The total score of all items of BSSRI score was 8.67 with SD of 2.102.

Age and Birth Satisfaction Score: Mean age of the participants in our study was 25.33 years. Among them 4% were teenage mothers, 80.5% were mothers aged between 20-30 years and 14% mothers were above 30 years of age. Satisfied BSSRI score (score >9) was 50% among teenage mothers, 51.5%

among mothers aged 20-30 years and 46.7% among mothers aged more than 30 years. P value was 0.584, so there was no significant association between age of mothers and BSSRI score.

Association between Period of Gestation and BSSRI Score: Among women with period of gestation less than 37 weeks, 38.1% had satisfied BSSRI score while as those with period of gestation more than 37 weeks 62.2% had satisfied score. P value for this relation was found to be 0.295 and thus statistically insignificant.

Association between Parity and BSSRI Score: Ninety-five mothers were women primiparas. Among them 46.3% had satisfied score. Among multiparas 55.4% satisfied score of more than 9. p value was 0.206, thus parity did not show significant association with BSSRI score.

Association between Antenatal Booking and BSSRI Score: Among 206 mothers, 174 were booked cases and 31 mothers were un-booked. Eighty-five (48.95%) of booked cases had satisfied BSSRI score and 19 (61.3%) of un-booked cases had satisfied BSSRI score. p value in this association was found to be 0.332.

Thus, receiving antenatal care (booking) in the facility where the delivery occurred did not show significant difference in satisfaction scores.

Association between Mode of Delivery and BSSRI Scores: In our study, sixty-two women had normal vaginal delivery among them 28 (45.2%) had BSSRI score between 9 and 12. Elective LSCS was performed in 54 women, 38(70.4%) of whom had score more than 9. Eighty-nine women had emergency LSCS and 38 (42.7%) of them had scores more than 9. P value calculated was found to be 0.006 which shows that BSSRI score was significantly associated with mode of delivery of patients. Patients with cesarean delivery had satisfactory score as compared to those with normal vaginal delivery.

Association of BSSRI Score with Gender of Baby: Ninety-eight women had female offspring, 54 (55.1%) had satisfied score of more than 9. P-value was found to be 0.48. Therefore, gender of baby is not significantly associated with satisfied BSSRI score.

Association of Stress Factors and Quality of Care Factors ('a' and 'b' items) with BSSRI Score (Table 2): Total BSSRI score in our study was 8.67 with SD of 2.102.

In stress factors ('a' item) mean score was 4.87 with SD 1.998. In quality-of-care factors ('b' items) mean score was 3.79 with SD of 0.586. With respect to 'b' items in BSSRI score 'Support by staff' had a mean of 1.94 with SD of 0.255 and communication was scored as 1.85 with SD of 0.497. (Table 2)

Therefore, our total BSSRI score was quite close to the satisfactory score with good quality of care provided by our health care workers.

Table 2: Descriptive statistics of BSS-RI

Item No.	Items	Domain	Mean	SD	Min	Max
1.	I was not distressed at all during labour	stress	0.88	0.804	0	2
2.	I felt very anxious during my labour and birth (R)	stress	1.08	0.856	0	2
3.	I felt well supported by staff during my labour and birth	quality	1.94	0.255	0	2
4.	I found giving birth a distressing experience (R)	stress	1.541	0.782	0	2
5.	I felt out of control during my birth experience (R)	stress	1.38	0.902	0	2
6.	The staff communicated well with me during labour	quality	1.85	0.497	0	2
	Stress of childbearing (items 1+2+4+5)	Stress	4.873	1.998	0	8
	Quality of Care(items 3+6)	quality	3.79	0.586	1	4
	BSS-RI total score		8.67	2.102	3	12

Table 3: Association of BSSRI score (> 9 satisfied) with parity, booking status, type of labour onset and gender of baby

Variables		BSSRI Score >9	p value
Age	<20 y 20-30 y >30 y	50% 51.5% 46.7%	0.584
Gestational age	<37 weeks >37 weeks	38.1% 62.2%	0.295
Booking status	Un-booked Booked	61.3% 48.9%	0.332
Parity	Primigravida Multigravida	46.3% 55.4%	0.206
Type of onset of labour	Spontaneous Induced	47.2% 28.6%	0.361
Gender of baby	Male	46.7%	0.482

	Female	55.1%	
Mode of delivery	Normal vaginal delivery Elective LSCS Emergency LSCS	45.2% 70.4% 42.7%	0.006

Discussion

The BSSRI is a valid, reliable and an easy tool to evaluate birth satisfaction among postpartum mothers in a health care facility. In the present study, total BSSRI score was found to be 8.67 with SD of 2.102. Mean BSSRI score for quality-of-care domain was 3.7 and for stress domain was found to be 4.87.

Study done on UK mothers by Martin et al, in 2017 showed that mean of quality care domain was 3.48 and stress domain was 4.77. Omani et al using the BSSRI questionnaire in Iranian mothers showed that BSSRI for quality of care was equal to 3.45 and mean of stress domain was 2.7.[6,11] This suggests that quality of care and stress factors observed in our study were similar to original study done by Martin et al.[6]

Our study reported a higher satisfaction score for quality-of-care domain than the factors reflecting stress in labour. Labour room practices such as having a desired attender present during birth, having an injectable analgesic given on request, allowing for ambulation during labour, allowing for position of comfort during second stage bearing down all contribute to the higher satisfaction score in this domain. Presence of trained and knowledgeable staff during labour may have perhaps contributed to the higher satisfaction scores in our study.

Our labour room policy of keeping the mother informed at regular intervals about the progress of labour, providing reassurance about the outcome and providing adequate information regarding any interventions made the women feel 'heard' and many of them opined that this was the prime reason influencing their satisfaction with the quality of care.

In this study age of mother and period of gestation did not show significant association with BSS-RI which is similar to the study done by Omani-Samani et al in 2019.[11]

Parity of women, booking status and gender of baby also did not significantly affect the birth satisfaction scores. Women with spontaneous onset of labour had better satisfaction score than with induced labour but this relation was not statistically significant.

Though the participants scored well on the satisfaction score related to support by staff, women felt distressed by the experience of labour. In our institute labour analgesia is given with Injection Tramadol as a single dose at around 4cm of cervical dilatation. This may provide inadequate pain relief and therefore increased stress. Adequate and better pain relief may provide a better birthing experience and improve the scores.

The unexpected finding was of significant birth satisfaction with cesarean section as compared to vaginal delivery. The distress and anxiety caused by surgery seems to have been overcome by the safe outcome of the pregnancy with a healthy baby.

This is in contrast to the study by various other authors (Jacoby et al and Martin et al) who found that the satisfaction scores of women who underwent normal vaginal delivery was better than those who underwent Caesarean sections.[6,12]

There were few limitations in our study. One of the limitations was increased rate of cesarean sections both elective and emergency. Another limitation includes non-availability of adequate analgesia like epidural analgesia which contributed to increased stress experienced during labour.

Conclusion

BSSRI is a valid and reliable tool which is also easy to administer. It will help health care administrators to serve in an effective way and improve the intrapartum care administered by them. Good communication, support and compassion from staff, and having her wishes respected, can help her feel in control of what is happening and contribute to making birth a positive experience for the woman and her birth companion.

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Reference

1. Demis A, Nigatu R, Assefa D, et al. Maternal satisfaction with intrapartum nursing care and its associated factors among mothers who gave birth in public hospitals of north Wollo zone, northeast Ethiopia: institution-based cross-sectional study. J Pregnancy 2020; 2020:8279372.
2. WHO recommendations: intrapartum care for a positive childbirth experience. Geneva: World Health Organization 2018.
3. Blazquez AR, Corchon S, Ferrandiz FE. Validity of instruments for measuring the satisfaction of a woman and her partner with care received during labour and childbirth: systematic review. Midwifery 2017; 55:103-12.
4. Martin CH, Fleming V. The birth satisfaction scale. International J Health Care QA 2011; 24:124-35.

5. Martin CJH, Martin CR. Development and psychometric properties of the Birth Satisfaction Scale- Revised (BSS-R). Midwifery 2014; 30:610-9.
6. Martin CR, Hollins Martin CH, Redshaw M. The birth satisfaction scale-revised indicator (BSS-RI). BMC Preg Childbirth 2017; 17:277.
7. Nijagal MA, Wissig S, Stowell C, et al. Standardized outcome measures for pregnancy and childbirth, ICHOM proposal. BMC Health Serv Res 2018;18(1):20240014.
8. Hollins Martin CJ, Martinez LJ, Martin CR. Measuring women's experiences of childbirth using the Birth Satisfaction Scale-Revised (BSS-R) Br J Midwifery 2020;28(5):306-12.
9. Omani-Samani R, Hollins-Martin CJ, Martin CR., et al. The Birth Satisfaction Scale-Revised Indicator (BSS-RI): a validation study in Iranian mothers. Journal of Maternal-Fetal and Neonatal Medicine 2021;34(11):1827-31.
10. Rajah A. The Birth Satisfaction Scale-Revised Indicator (BBSRI): Hausa adaptation, validation, and reliability study among Nigerian mothers. Qeios 2023. DOI: 10.32388/44SDM7.
11. Omani-Samani R, Hollins Martin CJ, Martin CR, et al. The birth satisfaction scale-revised Indicator (BSS-RI): a validation study in Iranian mothers. The Journal of Maternal-Fetal & Neonatal Medicine 2021;34(11):1827-31.
12. Jacoby A. Women's preferences for and satisfaction with current procedures in childbirth-findings from a national study. Midwifery 1987;3(3):117-24.