

Assessment of Birth Satisfaction among the Women Attending the Immunization Clinics in South Delhi: A Cross-sectional Study

Abstract

Background: A woman's satisfaction with childbirth services can have a significant impact on her mental health and ability to bond with her neonate. Indian women's satisfaction with childbirth services has been explored qualitatively, or by using nonstandard local questionnaires, but quantitative data gathered with standardized questionnaires are extremely limited. **Objective:** The aim of this study is to assess the birth satisfaction level among women of South Delhi with institutional normal vaginal delivery and to determine the factors associated with it. **Materials and Methods:** A cross-sectional study was conducted among the 102 mothers attending the immunization clinics of a primary care and a tertiary care center in South Delhi during March 2018–April 2018. A prevalidated, semi-structured, Hindi version 36-item Scale, with 10 domains, Scale for Measuring Maternal Satisfaction in normal birth was used. **Statistical Analysis:** Pearson Chi-square, Mann–Whitney test, and Fisher's exact test were applied as tests of significance. **Results:** The median age in completed years of the respondents was 24 years (interquartile range = 5). Majority, 58 (61.1%), of the participants, were more satisfied. Bribes were asked from 61.1% of the mothers. Demanding bribes, perceived competence of healthcare providers by the mothers, and the motivation given by others were significantly associated with the individual domains of birth satisfaction such as postpartum care satisfaction and overall support received. No significant association between the sociodemographic, birth time events and overall birth satisfaction levels was obtained. **Conclusion:** About 38.9% less satisfied mothers and the domain-specific associated factors give the scope for the areas to be worked on to improve the quality of maternal and patient-centric services. Hospitals should publicly declare and implement zero tolerance for bribes in the care of mothers.

Keywords: Birth satisfaction, Delhi, Indian women, institutional delivery, normal vaginal delivery

Introduction

Childbirth, although a physiological process, has been associated with multiple risks and stress on the women, even before the time of conception till postpartum, in India. Ensuring universal access to safe, acceptable, good quality sexual and reproductive health care, particularly contraceptive access and maternal health care, can dramatically reduce global rates of maternal morbidity and mortality.^[1]

Every woman around the world has a right to receive respectful maternity care. The concept of “respectful maternity care” has evolved and expanded over the past few decades to include diverse perspectives and frameworks.^[2] In 2014, the WHO released a statement calling for the prevention and elimination of disrespect and abuse during childbirth, stating that “every woman has the right to the highest attainable

standard of health, including the right to dignified, respectful care during pregnancy and childbirth” and stressed to include respectful care as an essential component of quality care.^[1]

A woman's satisfaction with childbirth services can have a significant impact on her mental health and ability to bond with her neonate. The intrapartum period is more the period where women are most vulnerable for abuse and disrespect, which is human right issue.^[1] The term “birth satisfaction” represents the survival of the woman and delivery of a healthy infant and also the provision of choice and control to childbearing women.^[3] It should be mentioned that the experience of women in labor may also influence maternal and neonatal outcomes since anxiety during labor is associated with high adrenaline levels, abnormal fetal heart rate, decrease of uterine contractility, an increase in the duration of the active labor stage, and low

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Apgar scores.^[4] On the other hand, the emotional support, guidance, and comfort measures may reduce anxiety, fear, and therefore, their adverse effects.^[4]

Birth satisfaction and respectful maternal care have direct impact on the percentage of institutional deliveries. Hence, this acquires higher relevance in the Indian scenario because institutional birth in our country is only 78%, and 38% of the women do not receive any postnatal care within 2 days and thus contributing to poor maternal mortality ratio (MMR) of 130 in India.^[5,6]

The National Health Policy of India released in 2017 promises providing health care with dignity to its subjects, which is in line with the WHO's stand on childbirth care and ensuring a women-friendly environment in the public-health facility.^[1,7]

Knowing postnatal women's opinions and satisfaction with services makes the services more women-friendly and women-oriented. Indian women's satisfaction with childbirth services has been explored qualitatively, or by using nonstandard local questionnaires, but scientific data gathered with standardized questionnaires are extremely limited.^[8] Particularly in Delhi, we could not find any quantitative assessment of birth satisfaction with validated questionnaires. Hence, in the present study we have focused on assessing the birth satisfaction level among the women of South Delhi with institutional normal delivery, quantitatively, and analyzing the factors associated with the levels of birth satisfaction.

Materials and Methods

A cross-sectional study was conducted among the mothers attending the immunization clinics of a Primary Care Maternal and Child Welfare center and a tertiary care hospital in South Delhi during March 2018–April 2018. A sample size of 86 was calculated, by taking the prevalence of birth satisfaction to be 68.7% from Jha *et al.* study,^[8] absolute error of 10%. Considering the nonresponse rate as 20%, the final sample size was calculated as 102.

Inclusion criteria

Mothers who had a normal vaginal delivery in an institution and attending the above immunization clinics for the 1st, 2nd, and 3rd Pentavalent/Oral Polio Vaccine/Injectable Polio Vaccine dose were included in the study.

Exclusion criteria

Mothers attending the immunization clinics with children aged more than 12 months, women who underwent cesarean section or developed complications after vaginal delivery and home-based delivery were excluded from the study.

Complete enumeration by consecutive sampling, according to the eligibility criteria, was done for 10 days, to meet the required sample size.

Table 1: Sociodemographic characteristics of the study participants (n=95)

Characteristic	n (%)	95% CI for percentage
Age (years)		
≤20	13 (13.7)	7.4-21.1
≥21	82 (86.3)	78.9-92.6
Education status		
Postgraduate	2 (2.1)	0.3-7.4
Graduate	16 (16.8)	9.5-24.2
Senior secondary	20 (21.1)	12.6-29.5
Secondary	20 (21.1)	12.6-29.5
Middle	15 (15.8)	9.5-23.2
Primary	14 (14.7)	8.4-23.1
Just literate	5 (5.3)	1.1-9.5
Illiterate	3 (3.2)	0.7-9.0
Employment status		
Employed	5 (5.3)	1.1-9.5
Home maker	90 (94.7)	90.5-98.9
Family type		
Nuclear	46 (48.4)	38.9-57.9
Joint	49 (51.6)	42.1-61.1
Socioeconomic category		
Upper lower	22 (23.2)	14.7-31.6
Lower middle	45 (47.4)	36.9-56.8
Upper middle	28 (29.4)	20-37.9

CI: Confidence interval

The variables studied were – religion, the area of residence, educational status, family type, primi status of parity, place of delivery, breastfeeding characteristics, and the presence of birth attendant.

A semi-structured, interviewer-administered Hindi (local language in Delhi) questionnaire which includes sociodemographic data and a validated scale for measuring maternal satisfaction – Scale for Measuring Maternal Satisfaction in normal birth (SMMS-normal birth) – was used.^[8,9] Six interviewers, who were the 6th-semester MBBS students, were oriented and trained for data collection, to ensure uniformity in eliciting the responses.

SMMS-normal birth consists of 36 items and 10 subscales, which measures 10 domains associated with childbirth satisfaction.^[8,9] Factors considered in the scale are as follows: perception of health professionals; nursing care in labor; comforting; information and involvement in decision-making; meeting baby; postpartum care; hospital room; hospital facilities; respect for privacy and meeting expectations. The cutoff score was calculated as 105.5 for SMMS-normal birth and the scores above cutoff value indicate more satisfied and below that indicates less satisfied with the childbirth care received.^[8]

Permission was obtained from the authors of the SMMS scale and the validated Hindi version of SMMS scale, to use it in our study.

Table 2: Distribution of the participants according to the birth characteristics of mothers

Characteristic	n (%)	95% CI for percentage
Primi status (n=94)		
Primi-Para	56 (58.9)	49.5-68.4
Multi-Para	39 (41.1)	31.6-50.5
Place of delivery (n=94)		
Public/government institute	86 (91.5)	86.2-96.8
Private institute	8 (8.5)	3.2-13.8
Person conducting delivery (n=94)		
Doctor	75 (79.8)	71.3-88.3
Nurse/ANM	19 (20.2)	11.7-28.7
Presence of birth attendant (n=95)		
Yes	55 (57.9)	48.4-68.4
No	40 (42.1)	31.6-51.6
Motivation for Institutional delivery (n=95)		
Yes	33 (34.7)	25.3-44.2
No	62 (65.3)	55.8-74.7
Time of initiation of breastfeeding (n=95)		
Within 30 min of delivery	16 (16.8)	9.5-25.3
After 30 min of delivery	79 (83.2)	74.7-90.5
Instructions given regarding breastfeeding (n=95)		
Yes	55 (57.9)	48.4-67.4
No	40 (42.1)	32.6-51.6
Bribes asked by hospital staff (as reported) (n=95)		
Yes	58 (61.1)	51.6-70.5
No	37 (38.9)	29.5-48.4

ANM: Auxiliary nurse midwife, CI: Confidence interval

Data entry was done on Microsoft excel spreadsheet, which was cross-checked and analyzed using the statistical software SPSS version 21.0 (IBM Corp, Armonk, NY). Descriptive statistics (tables and pie charts) were used to present the data. Pearson Chi-square, Mann-Whitney test, and Fisher's exact test were applied to determine the significance between variables and the birth satisfaction. A value of $P < 0.05$ was considered to be statistically significant.

Approval was obtained from the Institutional Ethical Committee of Vardhman Mahavir Medical College and Safdarjung Hospital (S.No IEC/Sub/VMMC/SJH/Project/March/2018/5), before the start of the study. After explaining the details of the study to the participants in Hindi and assuring total confidentiality of their information, written informed consent was taken from each study participant.

Results

The response rate was 93.1% (95 out of 102 forms were completed). The median age in completed years of the respondents was 24 years (95% confidence interval 24–25 years) (interquartile range [IQR] = 5 years).

Majority of the participants, 82 (86.3%) were in the age group of above 20 years and 90 (94.7%) were homemakers. Only 3 (3.2%) of the participating mothers reported as illiterates. The participants were almost equally distributed

between nuclear 46 (48.4%) and joint 49 (51.6%) family, in numbers. Majority of the participants, 45 (47.4%), belonged to lower middle socioeconomic class, whereas 28 (29.4%) and 22 (23.2%) participants belonged to upper middle and upper lower class, respectively, according to Revised Kuppuswamy's scale [Table 1].

Most of the participants, 56 (58.9%) were primiparous, i.e., giving birth for the first time. Majority of the deliveries, i.e., 86 (91.5%) were conducted in the government institutes such as hospitals and dispensaries, whereas 8 (8.5%) of the deliveries were conducted in private hospitals. The deliveries were conducted by the doctors for the majority of the participants, i.e., 75 (79.8%) and the rest 19 (20.2%) were conducted by the nurses or auxiliary nurse midwives (ANMs). Birth attendants were allowed by the hospitals during the majority of the deliveries (57.9%). Among the participating women, 62 (65.3%) reported that they did not get any motivation for institutional delivery, from others such as ASHAs, ANMs, or family members. The time of initiation of breastfeeding was >30 min from delivery among the majority of the participants (83.2%), even though instructions regarding proper breastfeeding practices were provided to 57.9% of the study participants [Table 2].

Majority of the participants, 58 (61.1%), reported that bribes were asked by the hospital staff during and postdelivery [Table 2].

The Birth Satisfaction Scale scores derived for the participants were found to be nonnormally distributed ($P = 0.008$), by applying Shapiro–Wilk’s test.

The median birth satisfaction score of the respondents was 123 (IQR = 42). Among the mothers who participated in the study, 58 (61.1%) were more satisfied with the services and experiences during the child-birth.

The scores of the 10 subdomains of the birth satisfaction scale were analyzed individually. All the 10 domains of the Birth Satisfaction Scale - Hospital facilities ($P < 0.001$), postpartum care ($P = 0.002$), information received and involvement in decision making ($P = 0.001$), meeting the baby ($P = 0.001$), intrapartum care ($P = 0.007$), overall support received ($P = 0.001$), expectations from institutional birth ($P < 0.001$), privacy ($P < 0.001$), compassion and respect ($P < 0.001$), experiences of having institutional birth ($P < 0.001$) were found to be not normally distributed, by Shapiro–Wilk test. Hence, median scores for each domain were calculated [Table 3].

There was no significant association of birth satisfaction levels with any of the sociodemographic variables [Table 4] and birth characteristics [Table 5].

As the subdomain scores were not normally distributed, Mann–Whitney U-test was used to determine the association between the individual domain and the factors.

Mothers who were homemakers (median = 15) had significantly better scores than the employed mothers (median = 7) for the domain of “Information received and involvement in decision making” ($U = 68, P = 0.009$).

Multiparous women (median = 14) scored significantly higher than the primipara (median = 11) in the domain of “Expectations from institutional birth” ($U = 701, P = 0.003$).

Mothers from nuclear family (median = 14) scored better than the ones from joint family (median = 11) in the domain of “Expectations from institutional

birth” ($U = 802, P = 0.014$). Mothers from joint family (median = 11) scored better than the ones from nuclear family (median = 9) in the domain of “meeting the baby” ($U = 816.5, P = 0.02$).

Mothers whose deliveries were conducted by nurses/ANMs (median = 16) had significantly lesser scores than the ones delivered by doctors (median = 19) in “postpartum care satisfaction” ($U = 499.5, P = 0.045$).

Mothers who had received motivation for an institutional delivery from others such as family, ASHAs, ANMs scored higher than the ones without such motivation in the domains of “Hospital facilities” (median 21 vs. 17; $U = 723, P = 0.019$), “Information received and involvement in decision-making” (median 16 vs. 13; $U = 766.5, P = 0.044$), “Intrapartum Care” (median 24 vs. 22; $U = 768, P = 0.046$), and “Overall support received” (median 6 vs. 5; $U = 746.5, P = 0.029$).

Participants who reported that bribes were demanded by the hospital staff (median = 5) scored less than that of the ones who were not asked to pay off bribes (median = 6) in the “Overall support received” ($U = 799, P = 0.034$).

Discussion

In the present study, 61.1% of the mothers who had delivered in institutions, were more satisfied with their childbirth experience, which is similar to the satisfaction level of 68.7% reported by Jha *et al.*^[8] at Chattishgarh, India. Studies from Ethiopia done by Bitew *et al.*^[10] and Tayelgn *et al.*^[11] revealed maternal satisfaction levels of 81.7% and 61.9%, respectively and Melese *et al.*^[12] reported between 2.4% and 21%. Matejić *et al.*^[13] in their study at Serbia reported a childbirth satisfaction level of 74.6%–82.2%. Christiaens and Bracke^[14] in his cross-national study of the Netherlands and Belgium reported a high childbirth satisfaction (mean = 4.21; standard deviation = 0.53) among the women. Domingues *et al.*^[15] reported a satisfaction level of 67%, the proportion of mothers who were completely satisfied with health-care ranges. A study by Mohammad *et al.*^[16] from Jordan revealed that 75% of women were dissatisfied with the child-birth services. Studies conducted in Bangladesh and South Australia indicated that the level of maternal satisfaction on delivery care was 92.3% and 86.1%, respectively.^[10] The difference in the satisfaction levels of our study from other studies may be explained by the difference in ethnicities, culture, and the different expectation levels among the mothers, especially in the western countries where it is high. The study tools used to assess the satisfaction levels were also different, which might have also contributed to the difference.

Since only mothers of live-births were included in our study, the “Halo effect” could have played a major role resulting in majority of mothers expressing higher levels of birth satisfaction, since delivering a live child was

Table 3: Median scores of subdomains of the birth satisfaction scale for the participants

Sub-domains of the birth satisfaction scale (maximum score)	Median (Q1, Q3)
Hospital facilities (25)	19 (11, 22)
Postpartum care (30)	18 (12,24)
Information received and involvement in decision making (25)	15 (9,18)
Meeting the baby (15)	10 (7,12)
Intrapartum care (30)	22 (19,27)
Overall support received (10)	6 (4,8)
Expectations from institutional birth (15)	12 (10,14)
Privacy (10)	7 (5,10)
Compassion and respect (10)	6 (5,8)
Experiences of having institutional birth (10)	8 (7,10)

Table 4: Association of birth satisfaction levels with sociodemographic characteristics (n=95)

Socio demographic characteristics	Birth satisfaction levels (%)		Total (%)	χ^2	P
	Less satisfied	More satisfied			
Age groups (years)					
≤20	6 (46.2)	7 (53.8)	13 (100)	0.329	0.566
≥21	31 (37.8)	51 (62.2)	5 (100)		
Employment status					
Employed	3 (60)	2 (40)	5 (100)	-	0.374*
Home-maker	34 (37.8)	56 (62.2)	90 (100)		
Socioeconomic category					
Upper lower	4 (18.2)	18 (81.8)	22 (100)	5.220	0.074
Lower middle	20 (44.4)	25 (55.6)	45 (100)		
Upper middle	13 (46.4)	15 (53.6)	28 (100)		
Type of family					
Nuclear	18 (31.1)	28 (60.9)	46 (100)	0.001	0.972
Joint	19 (38.8)	30 (61.2)	49 (100)		

*Fisher's exact test

Table 5: Association of birth satisfaction levels with birth characteristics (n=95)

Birth characteristics	Birth satisfaction levels (%)		Total (%)	χ^2	P
	Less satisfied	More satisfied			
Primi status					
Primi	22 (39.3)	34 (60.7)	56 (100)	0.007	0.935
Multi	15 (38.5)	24 (61.5)	39 (100)		
Place of delivery-run by*					
Government	36 (41.9)	50 (58.1)	86 (100)	-	0.142#
Private	1 (12.5)	7 (87.5)	8 (100)		
Delivered by*					
Doctor	29 (38.7)	46 (61.3)	75 (100)	0.075	0.798
ANM/nurse	8 (42.1)	11 (57.9)	19 (100)		
Birth attendant					
Present	20 (36.4)	35 (63.6)	55 (100)	0.367	0.545
Absent	17 (42.5)	23 (57.5)	40 (100)		
Motivation for institutional delivery					
Yes	9 (27.3)	24 (72.7)	33 (100)	2.898	0.089
No	28 (45.2)	34 (54.8)	62 (100)		
Time of initiation of breastfeeding					
<30 min of delivery	8 (50)	8 (50)	16 (100)	0.988	0.320
>30 min of delivery	29 (36.7)	50 (63.3)	79 (100)		
Instructions given for breastfeeding					
Yes	22 (40)	33 (60)	55 (100)	0.061	0.805
No	15 (37.5)	25 (62.5)	40 (100)		
Bribes asked by hospital staff					
Yes	25 (43.1)	33 (56.9)	58 (100)	1.082	0.298
No	12 (32.4)	25 (67.6)	37 (100)		

*n=94, #Fisher's exact test

the primary objective.^[15] Also considering a high MMR of 130/100,000 live births, achieving a healthy mother postdelivery could have masked other aspects surrounding the child-birth. This could have also stemmed from the lower expectation of women restricting herself to the physical health and well-being of the neonate and her body, since meeting these expectations is a significant factor associated with birth satisfaction.^[17]

None of the sociodemographic variables and birth characteristics were associated with birth satisfaction level indicating that irrespective of these factors three-fifths of the women were more satisfied with their childbirth experiences. However, the present study revealed that 39% of the participants were less satisfied with their childbirth experiences; hence, the need to address their concerns still remains.

Maternal age was not significantly associated with birth satisfaction which is not in line with the findings of Jafari *et al.*^[18] However, Jha *et al.*,^[8] Srivastava *et al.*,^[19] who reported that birth satisfaction was positively associated with a higher age of mothers. Multiparous women scored significantly higher than primiparous women in the domain of expectations from the delivery, most probably as they already had a delivery experience and hence, their expectation levels might have been lesser than that of primipara, a finding similar to the studies from Nigeria and Sri Lanka.^[19] However, parity had no bearing on the overall birth satisfaction levels in our study, similar to Jha *et al.*,^[8] Jafari *et al.*^[18] findings.

In the present study, the presence of birth attendant did not have a significant association with levels of birth satisfaction, which is in contrast to the findings brought out by Srivastava *et al.*^[19] in their systematic review and a Brazilian study by Domingues *et al.*^[15] where the presence of birth companions positively influenced birth satisfaction.

In the present study, there was a significant association between the person who conducted the delivery (Nurse/ANM vs. Doctor) and the postpartum care satisfaction but not associated with overall birth satisfaction. Srivastava *et al.*^[19] revealed a positive association between the perceived competence of the service provider and birth satisfaction, in the studies reviewed by them. However, the designation of the provider elicited in our study is only an indirect measure of the competence of the care providers perceived by mothers.

Bribes were asked from 61.1% of our study participants. It adds to the out-of-pocket expenditure (OOPE). Sudhinaraset *et al.* in their study in Uttar Pradesh reported that 24.2% of the mothers were demanded bribes.^[20] Issac *et al.* reported that bribes form the single major part in the OOPE incurred during delivery.^[21] Bribes were to be paid for availing the services of ambulance during transit and to the staffs of the overcrowded hospitals so that a bed is allotted in the ante-natal and postnatal wards.^[21,22] Studies reported the denial of care by the staff for not paying bribes.^[20,23] Bribes and the ensuing high OOPE acts as an impeding factor against choosing institutional delivery.^[22-25] The mothers who were demanded bribes by the hospital staff reported significantly less satisfaction in the domain of overall support received in our study. This is similar to the findings of previous studies, wherein bribes affected maternal satisfaction.^[19,21]

In this study, we have quantified the birth satisfaction levels in Delhi using the validated tool. However, there is limited external validity as it was done in immunization clinics of two public health hospitals and cesarean deliveries were not included. In addition, recall bias cannot be ruled out as the women were interviewed weeks after the delivery.

Conclusion

Although the overall satisfaction levels during parturition was not associated with any demographic or birth time events, demanding bribes, perceived competence of health-care providers by the mothers, and the motivation given by others were significantly associated with the individual domains of birth satisfaction such as postpartum care satisfaction, overall support received, information received and involvement in decision-making, hospital facilities, and intrapartum care. Hence, the motivation for institutional deliveries must be made sure by the ASHAs and ANMs at the health-care system level. Hospitals should publicly declare and implement zero tolerance for bribes in the care of mothers. They should ensure that the mothers and attendants are sensitized about the anti-bribe measures, with a proper channel for complaints and prompt action to control the menace of fleecing patients. Confidence building measures among the mothers over the competence of the paramedical staff to conduct the deliveries must be built, to increase the satisfaction levels. The above measures for improving the birth satisfaction levels will ultimately strengthen the patient-centered care envisaged in the National Health Policy of India.

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Conflicts of interest

There are no conflicts of interest.

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