Prevalence of Reproductive Health Problems During Delivery Among Rural Women: A Study in Chidambaram Area, Cuddalore District, Tamil Nadu

Dr. S. Vasuki,
Assistant Professor, Department of Population Studies, Annamalai University, Annamalai Nagar-608002, India.
Email ID: vasukibothi2006@gmail.com

Abstract

The reproductive health of women is of special concern, particularly during their reproductive years when reproductive morbidity is high, especially in countries like India. This study was conducted to assess the reproductive health status of rural married women and to identify those suffering from reproductive morbidity, providing appropriate guidance and treatment. Delivery typically occurs after nine months of pregnancy. Whenever possible, a pregnant woman should give birth in a health centre or hospital, even if the pregnancy is normal. This is primarily because complications during labour can suddenly arise, threatening the lives of the mother, the baby or both. This community-based, cross-sectional descriptive study was conducted among rural married women over 18 years of age in the field practice study areas. Using a simple random sampling method, a sample size of 260 was selected. Data collected from married women using a pretested structured questionnaire were analysed using SPSS. More than 51 percent of the women assessed reported health problems, including prolonged labour, excessive bleeding, malpresentation, episiotomy/perineal tears, and retained placenta during delivery. The majority of respondents reported experiencing malpresentation (53.4%) and excessive bleeding (46%) during delivery. Cross-classification analysis shows that prolonged labour, excessive bleeding, malpresentation, episiotomy/perineal tears, and retained placenta were the most common problems reported by the women in the study area. In this study, to assess the percentage of women accessing institutional delivery, respondents were asked to provide information about the place of delivery. More than 54 percent of the respondents delivered in private hospitals, nearly 40 percent used government health facilities, and only 0.8 percent delivered in maternity homes. This study aimed to determine the prevalence and factors associated with delivery-related complications among married women in the Chidambaram area of Tamil Nadu.

Keywords: Reproductive health, Reproductive morbidity, Malpresentation, Excessive bleeding, Prolonged labor, Retained placenta, Perineal tear

1.Introduction

Reproductive health refers to mortality, morbidity and quality of life attributable to the reproductive system, process and events experienced by men and women at all ages. The WHO defines reproductive health as "a state of complete physical, mental, and social well-being, and not merely the absence of reproductive disease or infirmity". Reproductive health is one of the crucial components of general health and well-being and one among the central features of human development. Reproductive health is most important for women, especially during their reproductive years as most of their reproductive health problems arise during that period. Women form an equal proportion of the population and they have their own social and medical problems. The morbidity and the mortality profile of the women in any country are specific to their socio – economic, demographic and other environmental-related conditions. The morbidity problems of the women are basically complicated because they have to bear the gynecological as well as obstetrical problems apart from the other health related issues. The general health and well-being of a woman greatly depends on a healthy reproductive life. The leading cause of ill

health in women of reproductive age group worldwide can be attributed to reproductive health problems, especially to those in the developing countries.

2.Problems at the Time of Delivery

Intra-natal care refers to the process of childbirth. Intra-natal care is of extreme importance for every pregnancy. The delivery of a baby, called the second stage of labour, begins as soon as the mother's cervix has fully dilated to 10 cm (4 in) and ends when the baby is born. About 4 in 10 mothers experience problems during delivery, and the risk is higher for a first pregnancy. With careful management, it may be possible to carry out a normal vaginal delivery, but if the second stage of labour is long, and the fetus's oxygen supply becomes insufficient, there is an increased risk of fetal distress. The doctor may then carry out an assisted delivery, using vacuum suction or forceps, or a caesarean section.

2.1 Objectives of the study

Examine the reproductive health problems of women at the time of delivery in the study area.

3.Methodology

All women in the Reproductive Age Group (15-45 years), irrespective of their marital status were interviewed for this study. Sampling is the procedure of selecting a portion of the population to represent the entire population in the study. It is proposed to select Cuddalore district among other districts of Tamilnadu, as Cuddalore is one among the most backward districts of Tamilnadu. In the five villages in Chidambaram Taluk of Cuddalore district, viz., Usuppur, Meethikudi, Sivapuri, Nandhimangalam and Kattukudalur were selected. Finally, from each village 52 respondents were selected randomly as sample for this study. Totally, 260 respondents within the age group of 15 to 45 were selected as sample. As it was planned to obtain information from the women through interview method, a detailed schedule was prepared, pretested and finalized. The tabulated data were analyzed with the use of SPSS. The association between the reproductive health problems at the time of delivery reported by the mothers in the study area and their socio economic and demographic background were established with the use of Chi square test.

4.Results and Discussion

4.1 Prevalence of Reproductive Health Problems during Delivery

The period from delivery and the first week of delivery lies in the perinatal period (from 28th week of pregnancy to 7th day of birth). During this period proper care is absolutely necessary. Poor nutritional status among mothers show high incidence of complications, which put them under risks. It was found in the present study area, more than half (51.2 per cent) of the respondents faced problems in this period. Among them majority (53.4 per cent) faced problems of Malpresentation and 46.6 per cent of respondents faced the problem of Rupture of Membrane. Excessive bleeding and Prolonged labour after delivery were the other problems reported by a considerable proportion of respondents Episiotomy / Perineal tear and Retained placenta were also the problems reported by some of the respondents. Table 1 Shows Distribution of Respondents Experienced Problems of Women during Delivery and their Background Characteristics.

Table 1 Distribution of Respondents Experienced Problems of Women during Delivery and their Background Characteristics

SED/Subvariables	No	Yes	Total	Chi-square	df	P value
Religion						
Hindu	123(48.80)	129(51.19)	252 (100)			
Christian	4(50.00)	4 (50.00)	8 (100)	0.004	1	0.94
Total	**127(48.84)**	**133(51.15)**	**260(100)**			

Caste						
SC/ST	27 (50.94)	26(49.06)	53 (100)			
Others	100 (48.31)	107(51.69)	207(100)	0.11	1	0.73
Total	**127(48.84)**	**133(51.15)**	**260(100)**			
Family type						
Nuclear family	65 (45.77)	77 (54.23)	142 (100)			
Joint family	62 (52.54)	56 (47.46)	118 (100)	1.18	1	0.27
Total	**127(48.84)**	**133(51.15)**	**260(100)**			
Education						
Illiterate	18 (64.29)	10 (35.71)	28 (100)			
Primary	28 (40.58)	41 (59.42)	69 (100)			
Middle	23 (44.23)	29 (55.77)	52 (100)			
High school	34 (55.74)	27 (47.40)	61 (100)	9.51	6	0.14
Hr. Secondary	11 (61.11)	7 (38.89)	18 (100)			
Graduate	13 (43.33)	17 (56.67)	30 (100)			
Professional	0 (0.00)	2 (100.00)	2 (100)			
Total	**127(48.84)**	**133(51.15)**	**260(100)**			
Present age						
$\leq$19	13 (72.22)	5 (27.78)	18 (100)			
20-24	40 (49.38)	41 (50.62)	81 (100)			
25-29	34 (52.31)	31 (47.69)	65 (100)	7.50	4	0.11
30-34	16 (35.56)	29 (64.44)	45 (100)			
Above 35	24 (47.06)	27 (56.87)	51 (100)			
Total	**127(48.84)**	**133(51.15)**	**260(100)**			
Age at Menarche						
$\leq$12	10 (71.43)	4 (28.57)	14 (100)			
13	13 (56.62)	10 (43.48)	23 (100)			
14	16 (59.26)	11 (40.74)	27 (100)	5.80	4	0.21
15	40 (44.44)	50 (55.56)	90 (100)			
Above 16	48 (45.28)	58 (54.72)	106 (100)			
Total	**127(48.84)**	**133(51.15)**	**260(100)**			
Age at Marriage						

<18	22 (56.41)	17 (43.59)	39 (100)			
18-20	51 (46.36)	59 (53.63)	110 (100)			
21-23	44 (50.00)	44 (50.00)	88 (100)	1.47	3	0.68
Above 24	10 (43.48)	13 (56.62)	23 (100)			
Total	**127(48.84)**	**133(51.15)**	**260(100)**			
Age at First Birth						
≤ 20	22 (68.75)	10 (31.25)	32 (100)			
21-22	16 (53.33)	14 (46.67)	30 (100)			
23-24	42 (46.67)	48 (53.33)	90 (100)	17.33	5	0.004
25-26	27 (62.79)	16 (37.21)	43 (100)			
Above 27	20 (30.77)	45 (69.23)	65 (100)			
Total	**127(48.84)**	**133(51.15)**	**260(100)**			
Children Ever Born						
1	43 (68.25)	20 (31.75)	63 (100)			
2	21 (61.76)	13 (38.24)	34 (100)			
3	30 (34.89)	56 (65.17)	86 (100)	21.22	5	0.001
Above 4	33 (42.86)	44 (57.14)	77 (100)			
Total	**127(48.84)**	**133(51.15)**	**260(100)**			
Family Size						
1	51 (48.11)	55 (51.89)	106 (100)			
2	58 (54.72)	48 (45.28)	106 (100)			
Above 3	18 (37.50)	30 (62.50)	48 (100)			
Total	**127(48.84)**	**133(51.15)**	**260(100)**			
Occupation						
Agriculture	54 (55.67)	43 (44.33)	97 (100)			
Coolies/wages	43 (48.31)	46 (51.69)	89 (100)			
Business/Trade	11 (40.74)	16 (59.26)	27 (100)	3.86	3	0.27
Employed	19 (40.43)	28 (59.57)	47 (100)			
Total	**127(48.84)**	**133(51.15)**	**260(100)**			
Annual Household Income						
≤10,000	51 (51.00)	49 (49.00)	100 (100)	3.42	6	7.55

10,001-20,000	49 (52.69)	44 (47.31)	93 (100)			
20,001-30,000	10 (47.62)	11 (52.38)	21 (100)			
30,001-40,000	4 (40.00)	6 (60.00)	10 (100)			
40,001-50,000	3 (37.50)	5 (62.50)	8 (100)			
50,001-60,000	3 (37.50)	5 (62.50)	8 (100)			
Above 60,000	7 (35.00)	13 (65.00)	20 (100)			
Total	**127(48.84)**	**133(51.15)**	**260(100)**			
Medical Expenditure						
$\leq$500	56 (49.56)	57 (50.44)	113 (100)			
501-1000	35 (50.00)	35 (50.00)	70 (100)			
1001-1500	12 (48.00)	13 (52.00)	25 (100)			
1501-2000	8 (47.06)	9 (52.94)	17 (100)			
2001-2500	5 (45.45)	6 (54.55)	11 (100)			
Above 2501	11 (45.83)	13 (54.17)	24 (100)			
Total	**127(48.84)**	**133(51.15)**	**260(100)**			

In the study area, the respondents were probed about the problems faced by them during their delivery. More than half (51 per cent) of the women assessed, reported health problems during their delivery. While the caste is correlated with the prevalence of reproductive health problems, interestingly lower proportion of women reported reproductive health problems than the women belong to other category. Similarly, higher percentage of women reported reproductive health problems were belong to nuclear families, higher educated women, women of higher age groups, women with higher age at menarche, women with higher number of children ever born, women with higher family size, women engaged in agricultural occupation and as Coolies/daily wages, women with lower household income, and the women belong to the families spent lesser amount for their medical expenses. A lower proportion of women among illiterates reported reproductive health problems than other higher educated women.

The overall discussion of the above table shows that there were some socio-economic inequalities exist in the prevalence of reproductive health problems among the women in the study area.

4.2 Reproductive Health Problems Experienced by Women during Delivery

Delivery normally occurs after nine months of pregnancy. If delivery occurs prematurely, special care for the baby may be needed. As far as possible, a pregnant woman should give birth in a health center or hospital, even if the pregnancy is normal. This is mainly because, during delivery, labor complications may suddenly occur, which can threaten the life of the mother, the baby, or both. During delivery, the time between the onset of a complication and the death of the mother, the baby, or both is so short that it may not be possible to save their lives if the mother is not already in a well-equipped health center or hospital. The respondents in the study area were asked about their reproductive health problems

during delivery, and the data obtained were cross-classified with their socio-economic and demographic backgrounds. The analysis of this cross-classification shows that prolonged labor, excessive bleeding, malpresentation, episiotomy/perineal tears, and retained placenta were the problems reported by the women in the study area. The following table shows the distribution of respondents by their reproductive health problems during delivery, along with their socio-economic and demographic characteristics. This analysis shows that the majority of respondents (53.4%) reported experiencing malpresentation during delivery, while 46 percent reported excessive bleeding. The third most commonly reported problem was prolonged labor. Episiotomy, perineal tears, and retained placenta were also reported by a considerable proportion of women in the study area. Furthermore, the analysis examined the relationship between socio-economic and demographic variables and the prevalence of these problems. It shows that a higher percentage of women from joint families, women in older age groups, women with a higher age at menarche, women with a higher age at first birth, and those with more children reported experiencing these complications.

Table 2 Distribution of Respondents by Problems of Women Experienced During Delivery and their Background Characteristics

SED/Sub Variables	Prolonged Labour	Excessive Bleeding	Malpresentation	Episiotomy /Perineal Tears	Retained Placenta	Chi-square	df	P value
Religion								
Hindu	38(29.5)	60(46.5)	67(51.9)	18(13.9)	7(5.4)	2.82	4	0.58
Christian	1(25.0)	1(25.0)	4(100.0)	0 (0.0)	0 (0.0)			
Total	**39(29.3)**	**61(45.9)**	**71(53.4)**	**18(13.5)**	**7 (5.3)**			
Caste								
SC/ST	8 (30.8)	10(38.5)	14(53.9)	1 (3.3)	0 (0.0)	3.85	4	0.42
Others	31 (8.9)	51(47.7)	57(53.3)	17(15.9)	7 (6.5)			
Total	**39(29.3)**	**61(45.9)**	**71(53.4)**	**18(13.5)**	**7 (5.3)**			
Family Type								
Nuclear family	19(24.7)	40(51.9)	39(50.7)	8 (10.4)	5(6.5)	4.77	4	0.311
Joint family	20(35.7)	21(37.5)	32(57.1)	10(17.9)	2 (3.6)			
Total	**39(29.3)**	**61(45.9)**	**71(53.4)**	**18(13.5)**	**7 (5.3)**			
Education								
Illiterate	1(10.00)	3(30.00)	4(40.00)	1(10.00)	0(0.00)	8.55	24	0.99
Primary	13(31.7)	20(48.8)	22(53.7)	5 (12.2)	2 (4.9)			
Middle	8 (27.6)	16(55.2)	15(51.7)	4 (13.8)	1 (3.5)			
High school	9 (33.3)	9 (33.3)	16(59.3)	3 (11.1)	3(11.1)			
Hr. Secondary	2 (28.6)	3 (42.9)	3 (42.9)	1 (14.3)	0 (0.0)			

Graduate	6 (35.3)	6 (35.3)	10(58.8)	4 (23.5)	1 (5.9)			
Professional	0 (0.0)	0 (0.0)	1 (50.0)	0 (0.0)	0 (0.0)			
Total	**39(29.3)**	**61(45.9)**	**71(53.4)**	**18(13.5)**	**7 (5.3)**			
Present age								
≤19	1(20.0)	3 (60.0)	2 (40.0)	1 (20.0)	1(20.0)			
20-24	14(34.2)	18(43.9)	20(48.8)	7 (17.1)	2 (4.9)			
25-29	9 (29.0)	14(45.2)	19(61.3)	2 (6.5)	1 (3.2)	15.16	16	0.51
30-34	6 (20.7)	20(68.9)	12(41.4)	5 (17.2)	1 (3.4)			
Above 35	9 (33.3)	6 (22.2)	18(66.7)	3 (11.1)	2 (7.4)			
Total	**39(29.3)**	**61(45.9)**	**71(53.4)**	**18(13.5)**	**7 (5.3)**			
Age at Menarche								
≤ 12	0 (0.0)	4(100.0)	0 (0.0)	0 (0.0)	0 (0.0)			
13	2 (20.0)	4 (40.0)	4 (40.0)	1 (10.0)	0 (0.0)			
14	2 (18.2)	7 (63.6)	5 (45.5)	1 (9.1)	1 (9.1)	13.91	16	0.60
15	17(34.0)	18(36.0)	31(62.0)	9 (18.0)	3 (6.0)			
Above 16	18(31.0)	28(48.3)	31(53.5)	7 (12.1)	3 (5.2)			
Total	**39(29.3)**	**61(45.9)**	**71(53.4)**	**18(13.5)**	**7 (5.3)**			
Age at Marriage								
≤18	4 (23.5)	10(58.8)	6 (35.3)	2 (11.8)	0 (0.0)			
18-20	20(33.9)	23(38.9)	33(55.9)	10(16.9)	4 (6.8)			
21-23	11(25.0)	22(50.0)	25(56.8)	3 (6.8)	2 (4.6)	7.29	12	0.83
24+	4 (30.8)	6 (46.2)	7 (53.9)	3 (23.1)	1 (7.7)			
Total	**39(29.3)**	**61(45.9)**	**71(53.4)**	**18(13.5)**	**7(5.3)**			
Age at First Birth								
≤20	1 (10.0)	6 (60.0)	3 (30.0)	1 (10.0)	1(10.0)			
21-22	5 (35.7)	7 (50.0)	6 (42.9)	1 (7.1)	0 (0.0)			
23-24	15(31.3)	18(37.5)	31(64.6)	9 (18.8)	3 (6.3)	19.73	16	0.23
25-26	3 (18.8)	7 (43.8)	8 (50.0)	0 (0.0)	0 (0.0)			
Above 27	15(33.3)	23(51.1)	23(80.0)	7 (15.6)	3 (6.7)			
Total	**39(29.3)**	**61(45.9)**	**71(53.4)**	**18(13.5)**	**7 (5.3)**			
Child Ever Born								
1	3 (14.3)	7 (33.3)	8 (38.1)	3 (14.3)	0(0.0)	45.01	16	0.001 (S)
2	14(36.8)	13(34.2)	18(47.4)	6(15.8)	4(10.5)			

3	13(28.3)	22(47.8)	23(50.0)	5 (10.9)	3(6.5)			
4	5 (25.0)	13(65.0)	16(80.0)	2 (10.0)	0 (0.0)			
5+	4 (50.0)	6 (75.0)	6 (66.7)	2 (25.0)	0 (0.0)			
Total	**39(29.3)**	**61(45.9)**	**71(53.4)**	**18(13.5)**	**7 (5.3)**			
Family size								
1	16(29.1)	28(50.9)	26(47.3)	9 (16.4)	4(7.3)	13.61	8	0.09
2	14(29.2)	22(45.8)	25(52.1)	5 (10.4)	2 (4.2)			
3+	9 (30.0)	11(36.7)	20(66.7)	4 (13.3)	1 (3.3)			
Total	**39(29.3)**	**61(45.9)**	**71(53.4)**	**18(13.5)**	**7 (5.3)**			
Occupation								
Agriculture	10(23.3)	24(24.7)	24(55.8)	8 (18.6)	2 (4.7)	17.78	12	0.12
Coolies/wages	14(30.4)	20(22.5)	25(54.4)	3 (6.5)	3(6.5)			
Business/Trade	4 (25.0)	8 (29.6)	7 (43.8)	3 (18.8)	0(0.0)			
Employed	11(39.2)	9 (19.2)	15(53.6)	4 (14.3)	2(7.1)			
Total	**39(29.3)**	**61(45.9)**	**71(53.4)**	**18(13.6)**	**7 (5.3)**			
Household Income								
≤ 10000	16(32.7)	25(51.0)	26(58.1)	4 (8.2)	3 (6.1)	50.52	24	0.001 (S)
10,001-20,000	11(25.0)	21(47.7)	25(56.8)	9 (20.5)	2 (4.6)			
20,001-30,000	3(27.3)	4 (36.4)	6 (54.6)	0 (0.0)	0(0.0)			
30,001-40,000	3 (50.0)	3 (50.0)	0 (0.0)	1 (16.7)	1(16.7)			
40,001-50,000	1 (20.0)	3 (60.0)	0 (0.0)	2 (40.0)	0 (0.0)			
50,001-60,000	1 (20.0)	3 (60.0)	4 (80.0)	1 (20.0)	0 (7.7)			
Above 60,001	4 (30.8)	2 (10.0)	10(76.9)	2 (15.4)	1(7.7)			
Total	**39(29.3)**	**61(45.9)**	**71(53.4)**	**18(13.5)**	**7 (5.3)**			
Medical Expenditure								
≤ 500	16(28.1)	23(40.4)	33(57.9)	6(10.5)	2 (5.5)	29.85	20	0.07
501-1000	9 (25.7)	18(51.4)	17(48.6)	4 (11.4)	2 (5.7)			
1001-1500	5 (38.5)	5 (38.5)	8 (61.5)	3 (23.1)	1(7.7)			
1501-2000	3 (33.3)	5 (55.6)	4 (44.4)	2 (22.2)	1(7.7)			
2001-2500	2 (33.3)	3 (50.0)	3 (50.0)	1 (16.7)	0(0.0)			
Above 2501	4 (30.8)	7 (53.9)	6 (46.2)	1 (7.7)	1 (7.7)			
Total	**39(29.3)**	**61(45.9)**	**71(53.4)**	**18(13.5)**	**7 (5.3)**			

Note: Percentage of Health Problems of Women Adds to More Than 100 Dues to Multiple Responses

The respondents in the study area were asked about their reproductive health problems during delivery, and the data obtained from them were cross-classified with their socio-economic and demographic background. While analyzing the prevalence of excessive bleeding during delivery in relation to the socio-economic and demographic characteristics of women in the study area, a higher proportion of women from non-SC/ST groups, nuclear families, married before the age of 18, with more children, and larger family sizes reported excessive bleeding during delivery. The analysis also shows that there was no significant association between variables such as educational status, age at menarche, age at first birth, occupation, household income, and money spent on medical expenses. Regarding other conditions such as prolonged labor, episiotomy/ perineal tears, and retained placenta, the same trend was observed. delivery care is crucial for both maternal and perinatal health, and increasing skilled attendance at birth is a central goal of the Safe Motherhood and Child Survival movements. Skilled attendance at delivery is an important indicator in monitoring progress towards Millennium Development Goal 5, which aims to reduce the maternal mortality ratio by three-quarters between 1990 and 2015. In addition to professional care, it is important that mothers deliver their babies in an appropriate setting, where lifesaving equipment and hygienic conditions can help reduce the risk of complications that may cause death or illness to both mother and child. Over the past decade, interest has grown in examining the factors that influence care-seeking behavior. As cited in the 'three delays' model, three main inhibitors to healthcare service utilization exist: the delay in deciding to seek care, the delay in reaching an adequate healthcare facility, and the delay in receiving adequate care at that facility.
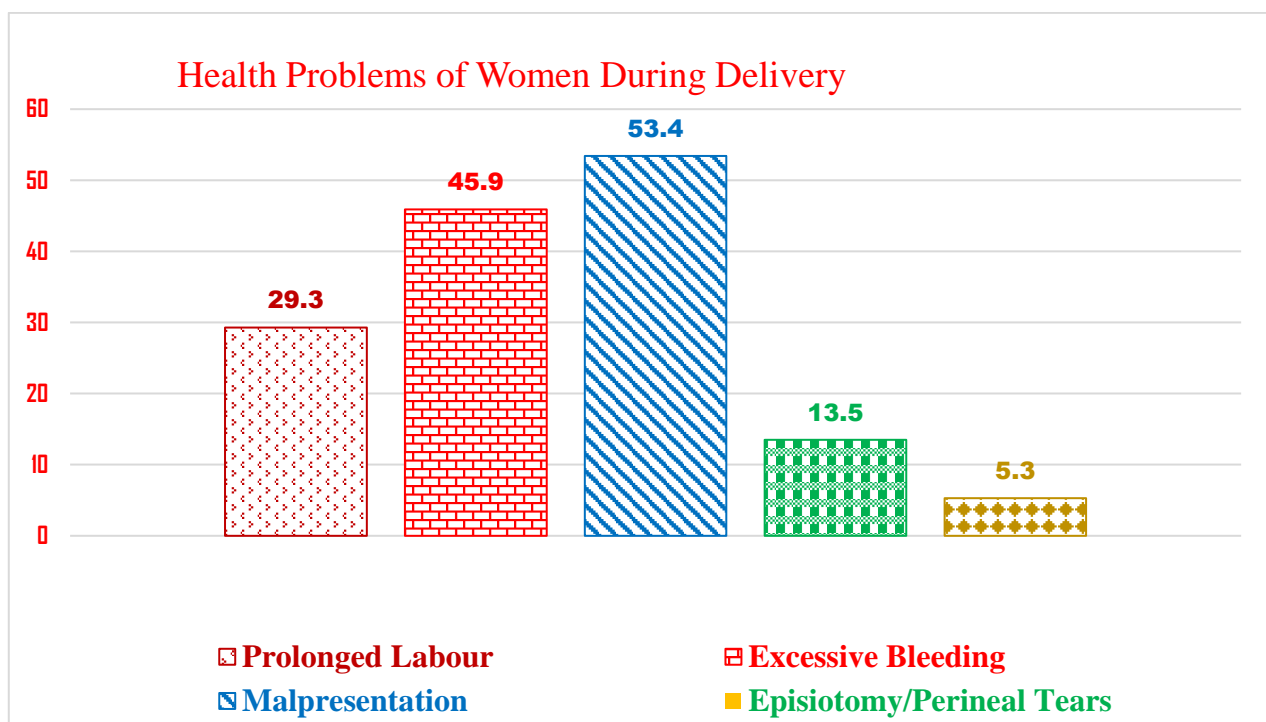

Figure 1 Health Problems of Women During Delivery
Note: Percentage of Women Health Problems Adds to More Than 100 Dues to Multiple Responses

4.3 Place of Delivery and Socio-Economic and Demographic Background

The first delay may be due to a lack of understanding of danger signs, the absence of the decision maker from the household, the low status of women, cost, previous unsatisfactory experiences with the healthcare system, and perceived low quality of care. The second delay may be due to distance from the facility, lack of transportation, difficult terrain, and the high cost of travel. Research consistently shows that high cost is a significant constraint to service utilization, particularly for the poor. In India, studies show a very high out-of-pocket expenditure on delivery care, and although the private sector is more expensive, the cost of public sector inpatient care services has increased since the 1990s. Thus, income is a major determinant of care-seeking behavior. Recent analysis of the third National Family Health Survey (2005/2006) shows that only 13% of women in the lowest wealth quintile accessed institutional delivery care, compared with 84% in the highest wealth quintile.

Table 3 Distribution of Respondents by Place of Delivery and their Background Characteristics

SED/Sub Variables	Govt. Hospital	Private Hospital	Maternity Home	Total	Chi-square	df	P value
Religion							
Hindu	115(41.67)	135(57.54)	2(0.8)	252(100)	1.61	3	0.657
Christian	2(25.0)	6(75.0)	0 (0.0)	8(100)			
Total	**117(45)**	**141(54.2)**	**2(0.8)**	**260(100)**			
Caste							
SC/ST	38 (71.7)	15 (28.3)	0 (0.0)	53(100)	19.459	3	0.001 (S)
Others	79 (38.16)	136(60.9)	2 (0.9)	207(100)			
Total	**117(45)**	**141(54.2)**	**2(0.8)**	**260(100)**			
Family type							
Nuclear family	72 (50.7)	70 (49.3)	0 (0.0)	142(100)	7.936	3	.047 (S)
Joint family	45 (38.1)	71 (60.2)	2 (1.7)	118(100)			
Total	**117(45)**	**141(54.2)**	**2(0.8)**	**260(100)**			
Education							
Illiterate	15(53.57)	13(46.4)	0(0.0)	28(100)	16.910	18	0.529
Primary	37(53.62)	32(46.4)	0 (0.0)	69(100)			
Middle	22 (42.31)	30 (57.69)	0 (0.0)	52 (100)			
High school	22 (36.07)	37 (60.66)	2 (3.3)	61(100)			
Hr. Secondary	9 (50.0)	9 (50.0)	0 (0.0)	18(100)			
Graduate	11 (36.67)	19 (63.33)	0 (0.0)	30(100)			
Professional	1(50.0)	1(50.0)	0(0.0)	2(100)			

Total	**117(45)**	**141(54.2)**	**2(0.8)**	**260(100)**			
Present Age							
≤19	7(38.9)	11(61.1)	0(0.0)	18(100)	18.19	12	0.11
20-24	29(35.8)	51(62.9)	1(1.2)	81(100)			
25-29	29(44.61)	35(53.9)	1(1.5)	65 (100)			
30-34	21 (46.67)	24 (53.3)	0(0.0)	45 (100)			
Above 35	31(60.78)	20(39.2)	0(0.0)	51(100)			
Total	**117(45)**	**141(54.2)**	**2(0.8)**	**260(100)**			
Age at Menarche							
≤12	10 (71.4)	4 (28.6)	0 (0.0)	14(100)	14.057	12	.297
13	11 (47.8)	12 (52.2)	0 (0.0)	23(100)			
14	10 (37.04)	16 (59.3)	1 (3.7)	27(100)			
15	41 (45.56)	49 (54.4)	0 (0.0)	90(100)			
Above 16	45 (42.45)	60 (56.6)	1 (0.9)	106(100)			
Total	**117(45)**	**141(54.2)**	**2(0.8)**	**260(100)**			
Age at Marriage							
≤18	20 (51.28)	19 (48.7)	0 (0.0)	39(100)	18.19	12	0.11
18-20	47 (42.73)	62 (56.4)	1 (0.9)	110(100)			
21-23	41 (46.59)	46 (52.3)	1 (1.1)	88(100)			
Above 24	9 (39.13)	14 (60.9)	0 (0.0)	23(100)			
Total	**117 (45)**	**141 (54.2)**	**2 (0.8)**	**260(100)**			
Age at First Birth							
≤ 20	15 (46.9)	17 (53.1)	0 (0.0)	32 (100)	9.34	12	0.67
21-22	13 (43.33)	16 (53.3)	1 (3.3)	30 (100)			
23-24	33 (36.67)	57 (63.33)	0 (0.0)	90 (100)			
25-26	21 (48.84)	22 (51.2)	0 (0.0)	43 (100)			
Above 27	25 (38.46)	39 (60.0)	1 (1.5)	65 (100)			
Total	**117 (45)**	**141 (54.2)**	**2 (0.8)**	**260(100)**			
Child Ever Born							
1	34 (53.1)	30 (46.9)	0 (0.0)	64 (100)	36.90	12	0.01 (S)
2	16 (20.51)	60 (76.9)	2 (2.6)	78 (100)			
3	35 (52.24)	32 (47.8)	0 (0.0)	67 (100)			

4	21 (63.64)	12 (36.4)	0 (0.0)	33 (100)			
Above 5	11 (61.11)	7 (38.9)	0 (0.0)	18 (100)			
Total	**117(45)**	**141(54.2)**	**2(0.8)**	**260(100)**			
Family Size							
1	38 (35.85)	66 (62.3)	2 (1.9)	106(100)			
2	60 (56.6)	46 (43.4)	0 (0.0)	106(100)			
Above 3	19 (39.58)	29 (60.4)	0 (0.0)	48 (100)			
Total	**117(45)**	**141(54.2)**	**2(0.8)**	**260(100)**			
Occupation							
Agriculture	34 (35.05)	63 (64.9)	0 (0.0)	97(100)			
Coolies/ wages	54 (60.67)	35 (39.3)	0 (0.0)	89(100)	23.76	9	0.005 (S)
Business/ Trade	11 (40.7)	15 (55.6)	1 (3.7)	27(100)			
Employed	18 (38.3)	28 (59.6)	1 (2.1)	47(100)			
Total	**117(45)**	**141(54.2)**	**2(0.8)**	**260(100)**			
Household Income							
≤10,000	41 (41.0)	59 (59.0)	0 (0.0)	100(100)			
10,001-20,000	44 (47.3)	49 (52.7)	0 (0.0)	93(100)			
20,001-30,000	14 (66.67)	6 (28.6)	1 (4.8)	21(100)			
30,001-40,000	8 (80.0)	2(20.0)	0 (0.0)	10(100)	41.91	18	0.001 (S)
40,001-50,000	2 (25.0)	5 (62.50)	1(12.5)	8(100)			
50,001-60,000	1 (12.5)	7 (87.5)	0 (0.0)	8(100)			
Above 60,001	7 (35.0)	13 (65.0)	0 (0.0)	20(100)			
Total	**117(45)**	**141(54.2)**	**2(0.8)**	**260(100)**			
Medical Expenditure							
≤500	46 (40.71)	67 (59.3)	0 (0.0)	113(100)			
501-1000	31 (44.28)	39 (55.7)	0 (0.0)	70 (100)	21.44	15	0.12
1001-1500	14(56)	10(40.0)	1(4.0)	25(100)			

1501-2000	10 (58.82)	6 (35.3)	1 (5.9)	17(100)			
2001-2500	7 (63.6)	4 (36.4)	0 (0.0)	11(100)			
Above 2501	9 (37.5)	15 (62.5)	0 (0.0)	24(100)			
Total	**117 (45)**	**141 (54.2)**	**2 (0.8)**	**260(100)**			

Note: Percentage of Women by Place of Delivery

In this study, to assess the percentage of women accessing institutional delivery, respondents were asked to provide information about their place of delivery. Regardless of the socio-economic and demographic background of the mothers in the study area, more than half (54.2 percent) of the respondents accessed private hospitals, 45 percent used government health facilities for delivery, and only 0.8 percent delivered in maternity homes. The higher percentages were among nuclear families, SC/ST groups, illiterate women, older women (35+ years), and women with more children, larger family sizes, and families that spent less on medical expenses. It is inferred from the above table that, regarding the place of delivery, the Chi-square results show no significant association between the respondent's religion, education, current age, and age at menarche (P>0.05). However, caste, family type, and respondent's annual household income are significantly associated with the place of delivery (P<0.05). Additionally, number of children, family size, and occupation are significantly associated (P<0.05), whereas other variables such as respondent's age at marriage, age at first birth, and medical expenditure are not significantly associated (P>0.05). Figure 2 Shows Place of Delivery
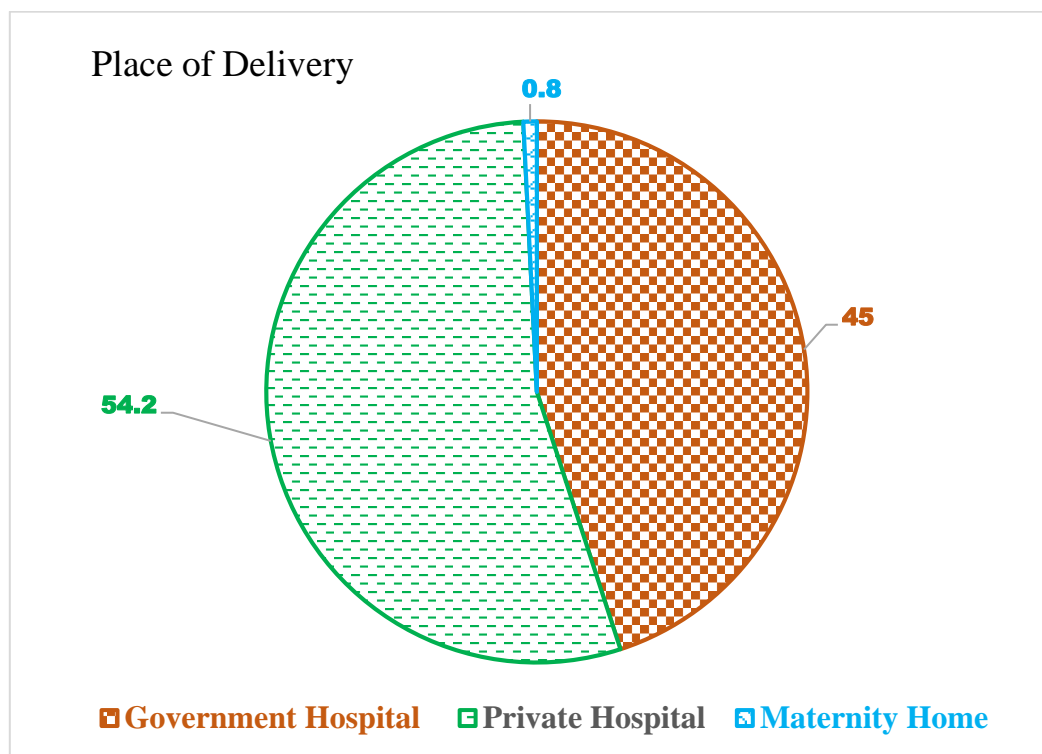

Figure 2 Place of Delivery
Note: Percentage of women by Place of Delivery

Conclusion

Prevalence of Reproductive Health Problems during Delivery While caste is correlated with the prevalence of reproductive health problems during delivery, interestingly, a lower proportion of women from SC/ST groups reported reproductive health problems compared to women belonging to other categories. Similarly, a higher percentage of women who reported reproductive health problems belonged to nuclear families, were more educated, were older, had a higher age at menarche, had more children, came from larger families, worked in agriculture or as daily wage laborers, had lower household incomes, and belonged to families that spent less on medical expenses. A lower proportion of illiterate women reported reproductive health problems compared to more educated women. The analysis infers that, concerning problems during delivery, the Chi-square results show no significant association between religion, caste, family type, the respondent's current age, education, and age at menarche and their socio-economic and demographic backgrounds (P>0.05). However, age at first birth and number of children were significantly associated with problems during delivery (P<0.05). In contrast, variables such as the respondent's age at marriage, family size, occupation, annual household income, and medical expenses were not significantly associated (P>0.05).

In analysing the prevalence of foetal malpresentation during delivery in relation to the socio-economic and demographic characteristics of women in the study area, a higher percentage of women from joint families, older age groups, those with a higher age at menarche, a higher age at first birth, more children, and larger family sizes reported foetal malpresentation. The analysis also shows no significant association between variables such as caste, educational status, and age at marriage, occupation, household income, and money spent on medical expenses. When analysing the prevalence of excessive bleeding during delivery in relation to the socio-economic and demographic characteristics of women in the study area, a higher proportion of women from non-SC/ST groups, nuclear families, married before the age of 18, with more children, and larger family sizes reported excessive bleeding during delivery. The analysis also shows no significant association between variables such as educational status, age at menarche, age at first birth, occupation, household income, and money spent on medical expenses. The same trend was observed for other conditions such as prolonged labour, episiotomy/perineal tears, and retained placenta. It is inferred from the statistical analysis that, regarding problems during delivery, variables such as religion, caste, family type, education, current age, age at menarche, age at first birth, age at marriage, family size, occupation, and medical expenditure are not significantly associated with delivery problems, as the calculated p-value was greater than 0.05. However, the respondent's annual household income, number of children, and family type are significantly associated with delivery problems (P<0.05). Regarding the place of delivery and the socio-economic and demographic background of mothers in the study area, 54.2 percent of respondents accessed private hospitals, 45 percent used government health facilities for delivery, and only 0.8 percent delivered in maternity homes. Although many respondents delivered in government hospitals, higher percentages were among women from nuclear families, SC/ST groups, illiterate women, older women (35+ years), and women with more children, larger family sizes, and families that spent less on medical expenses. The analysis infers that, regarding the place of delivery, the Chi-square results show no significant association between religion, respondent's education, current age, or age at menarche (P>0.05). However, caste, family type, and

respondent's annual household income are significantly associated with the place of delivery (P<0.05). Additionally, number of children, family size, and occupation are significantly associated (P<0.05), while other variables such as respondent's age at marriage, age at first birth, and medical expenditure are not significantly associated (P>0.05).

Reference

[1]. United Nations Population Information Network (Popin). Guidelines on Reproductive Health. [Last accessed on 2019 Jun 05]. Available from: https://www.un.org/popin/unfpa/taskforce/guide/iatfreph.gdl.html .

[2]. United Nations Population Fund. Sexual and Reproductive Health. [Last accessed on 2019 Jun 06]. Available from: https://www.unfpa.org/sexual-reproductive-health .

[3]. WHO. Measuring Reproductive Morbidity. Geneva: 1989. [Last accessed on 2019 Jun 06]. Available from: https://apps.who.int/iris/bitstream/handle/10665/61306/WHO_MCH_90.4.pdf?sequence=1&is Allowed=y . [Google Scholar]

[4]. Park K. 25th ed. India: Bhanot Publishers; 2019. Parks Textbook of Preventive and Social Medicine

[5]. Singh P, Hashmi G, Swain PK. High prevalence of cesarean section births in private sector health facilities-analysis of district level household survey-4 (DLHS-4) of India. BMC Public Health. 2018; 18:613. [PMC free article] [PubMed] [Google Scholar]