



Birhor Women And Their Health Care Utilization During Pregnancy: A Study On Particularly Vulnerable Tribal Group Inhabiting In West Bengal, India

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Abstract: The main objective of the paper has been to explore health care utilization during pregnancy among a group of Birhor women. A cross sectional study was conducted among 44 Birhor women, who were aged between 15 and 44 years, living in Purulia district of West Bengal. Information on socio-demographic characteristics and utilization of health care services during the period of pregnancy were collected using standard pretested questionnaire. It was observed that 68.2 % of the participants received antenatal care services and all of them received tetanus toxoid (TT) injection and iron tablets, in case of iron tablet, very few of them (22.7%) completed the course of this drug. During antenatal care, about 70.5 % of the participants received supplementary nutrition from Anganwadi Centre. Bivariate analysis (chi square test) did not found any significant association between utilization of antenatal care services and socio-demographic factors. The qualitative data of the present study shows that study participants have alleged that the health care providers are not providing adequate care to them. Finally, study concludes that though a good number of Birhor women had utilized the maternal health care services during their pregnancy, still few of them were unaware about the importance of such services.

Key words - Health care utilization, particularly vulnerable tribal group, Birhor women, West Bengal

I. INTRODUCTION

Maternal and child health care practices are found to be largely neglected in various tribal groups. The practice of consuming alcohol during pregnancy among the tribal women is quite common. Almost every woman does their regular activity including hard labour work during the advance stage of their pregnancy. From the inception of pregnancy to its termination no specific nutritional diet is consumed by women. The consumption of iron and vitamins was found to be also poor. Many of them even do not receive TT injections during pregnancy. Most of the deliveries are conducted at home attended by elderly ladies, resulted in increased susceptibility to various infections. Under-nutrition as well as anaemia was prevalent among the tribal women (Ghosh 2003).

1.1 A brief over view on Birhor population

Birhor population inhabit in the district of Purulia, West Bengal. They mostly migrated from Ranchi, Hazaribagh, Dhanbad of Jharkhand state more than 150 years ago. Presently they live in six villages spread across the three Blocks, namely Baghmundi, Balarampur and Jhalda-I of Purulia district of West Bengal. They are also found living in Bhupatipalli, Baredi and Bareriya village (Baghmundi block), Chhotobakad and Ichatu village (Jhalda -I block) and Bersa village (Balarampur block) (Backward Classes Welfare Department, Purulia 2018).

Birhors are identified as a nomadic hunting gathering group. They trap monkeys, rabbits and titirs (a small bird), and collect and sell honey. They make ropes out of the fibres of a particular species of vine, which they sell in the markets of the nearby agricultural people. Some of them now lead a settled life (Chowdhury 2008). The Birhor belongs to the Proto-Australoid stock, linguistically; they originated from the Austro-Asiatic (Mundari) group (Sinha and Banerjee 2004).

They preferred to live in leaf huts (Kumba). But at present they are living in houses build by Backward Classes Welfare Department of West Bengal. Birhors were relocated to mud built houses and later in the concrete huts by government agencies.

Previously they did not send their child to any educational Institute, did not visit any health centre for seeking treatment. Even any rural women did not interest to receive any health care facilities during their pregnancy. But presently, they are taking health facilities. MANT (an NGO) is providing mobile health care facilities to the Birhor (Backward Classes Welfare Department, Purulia 2018).

Bagchi (2006) found in his study that Birhor people consider pregnancy as a normal phenomenon. Hence, no special measures or food and nutrient supplementation are thought of in relation to the pregnant women and nursing mothers. Rather, food restrictions and prescriptions during pregnancy and the early phase of lactation deprive the mothers and breast-fed babies from getting food and nutrients in adequate amount.

II OBJECTIVE

The objective of the present study was to explore the trends of health care utilization during pregnancy among a group of Birhor women inhabiting in Purulia district of West Bengal.

III METHODOLOGY

3.1. Study setting

This cross sectional study was conducted in an indigenous ethnic group known as “Birhor” of West Bengal, a state located in eastern India. Birhor population has been declared as “Particularly Vulnerable Tribal Groups” of this country on the basis of certain characteristics like low level of literacy, pre agricultural level of technology, and declining or stagnant population (Ministry of Tribal Affairs, Government of India 2019).

In West Bengal, Bihors are mainly concentrated in the district of Purulia. Birhor populations from two villages, namely Bhupatipalli and Bareriya under the CD block namely, Bagmundi of Purulia district has been identified for the present study.

3.2. Study participants

Total 44 Birhor women have been selected on the basis of the criteria fixed for the study: married women at the time of interview, aged between 15 and 44 years, and had experience of pregnancy during last five years prior to the study.

The objectives and benefits of the study were explained to and written consent was obtained from all the participants who volunteered to participate.

3.3. Data collection

Quantitative data

Structured questionnaires have been administered to collect quantitative data. The questionnaires were developed in English and then translated into local language (Bengali) and further retranslated to English language to check the validity.

Data on socio-demographic characteristics and utilization of maternal health care services during pregnancy were collected using pretested questionnaires.

In order to maintain the quality of data to be collected, a pre-test was performed before the actual data collection and interviews were performed using local language.

Socio-demographic characteristics

It includes age of the participants at the time of interview, type of family, number of family members, monthly household expenditure [Indian National Rupees (INR)], years of education and occupational types of the participants, duration of marriage, mean age at pregnancy, parity, total number of pregnancy and women autonomy based on indicators of women’s mobility (decision making ability on ANC and freedom to availed health facility). Data types also include place of residence, physical quality of the road from the place of residence to the public health centres, availability of transport facility in the locality, distance of health sub centre from the place of residence, availability of auxiliary nurse midwifery (ANM), accredited social health activist (ASHA) and *anganwadi* worker (AWW) in the village.

Utilization of maternal health care services during pregnancy

A well tested questionnaire was designed to assess the information on antenatal natal care (ANC) service utilization.

To assess the information on ANC service utilization, participants were asked five questions; e.g., “Did you register your pregnancy at any health facility?”, “Did you receive any antenatal care during last pregnancy?”, “Have you used IFA tablets during pregnancy?”, “Did you complete the full course of IFA tablets?” and “Were you given an injection during last pregnancy to prevent Tetanus?” -The response options were ‘yes’ or ‘no’. Other questions like “How many times did you availed health facility during ANC?” - The response options were ‘1-4 times’, ‘5-8 times’, ‘9-12 times’ and ‘no visit’, “Where did you receive antenatal visit for most of time during pregnancy?” - The response options were ‘Public Facility’ and ‘others’, ‘How do you travel to any health facility?’ - The response options were ‘walking’, ‘bus’ and ‘two wheeler/ bicycle’, “Did you receive any health information from Anganwadi Centre during antenatal care?” - The response options were ‘yes’ or ‘no’ and “Did you receive any supplementary nutrition from Anganwadi Centre during antenatal care?” - The response options were ‘yes’ or ‘no’ were also used.

Important information was gathered with the help of the question like, “Did you receive money of *Janani Suruksha Yojana (JSY)* scheme?”- The response options of this question were ‘yes’ or ‘no’ and if the answer is ‘no’, then another question like, “Why are not getting the money from the scheme?” was also asked.

To assess the reasons behind non utilization of maternal health care services during their pregnancy period, participants were asked e.g., “What were the reasons for not going to any health facility for antenatal check- up/test?” -The response options were, ‘not required’, ‘not customary’, ‘poor quality service’, ‘family decision’, ‘unawareness’, ‘no time to go’, and ‘poor road condition’.

Qualitative data

In order to supplement quantitative research and to assess the ‘underlying mechanism’ pertaining to different dimensions of inequity in maternal health care service utilization, a qualitative assessment has been carried out in this phase using focus group discussion (FGDs) among the participants.

Focus Group Discussion (FGD)

FGDs have been conducted among eligible women to understand various dimensions of inequity in utilization of maternal health care services. The proceedings have been recorded in the voice-recorders.

3.4. Period of the field work

The data were collected during the period between May 2019 and December 2019.

3.5. Ethical issue

The present study was approved by Institutional Ethical Committee, University of Calcutta (approval number: Table Item No. 02, dated 26.12.2018).

3.6. Data analysis

Descriptive statistics were used to calculate the frequency of socio-demographic characteristics and utilization of maternal health care services during pregnancy among the participants. Bivariate statistics like chi square test was used to assess the association between different socio-demographic characteristics and utilization of maternal health care services (ANC). A minimum cut off point of $p < 0.05$ was used to determine the significance level.

IV. RESULTS AND DISCUSSION

4.1. Socio-demographic characteristics

The mean age of the participants was 27.18 years at the time of interview and most of them live in nuclear family (77.3%) with monthly house hold expenditure 5000 and above that (INR) (61.4%). More than half of the participants and of their husbands has not received any formal education. Majority of the participants were engaged in making rope and broom, whereas, collection of the woods from forest were primary occupation of their husbands. The physical quality of the roads and availability of the transports was good within respective villages. Each of the villages is supported by ANM and ASHA workers. Majority of the participants (67.5%) got married within the last ten year period prior to the time of study, and the mean age at pregnancy (17.43 ± 1.33) is below the statutory age at marriage of India with parity between 2 and 4 (70.5%) (Table 1).

Table 1 Socio-demographic characteristics of the participants

| Group | | Participants (N=44)/ Mean± SD | |
|------------------------------------------------------------------|---------------------|----------------------------------------------------|----------------|
| <i>Mean age of participants at the time of interview (years)</i> | | 27.18 ± 5.12 | |
| Types of family | | | |
| Nuclear | | 34 (77.3) | |
| Joint/ extended | | 10 (22.7) | |
| Members in a family | | | |
| ≤ 5 | | 26 (59.1) | |
| >5 | | 18 (40.9) | |
| Monthly household expenditure (INR) | | | |
| Below 5,000 | | 17 (38.6) | |
| 5,000 and above | | 27 (61.4) | |
| Years of education of participants | Participants | Years of education of participants' husband | Husband |
| 0 | 29 (65.9) | 0 | 34 (77.3) |
| 1-4 | 10 (22.7) | 1-4 | 3 (6.8) |
| 5-8 | 5 (11.4) | 5-8 | 7 (15.9) |
| 9-10 | - | 9-10 | - |
| Occupational types of participants | Participants | Occupational types of participants' husband | Husband |
| Wood collection from forest | 4 (9.1) | Wood collection from forest | 29 (65.9) |
| Other labour work | 11 (25.0) | Other labour work | 15 (34.1) |
| Rope and broom making | 29 (65.9) | | |
| Duration of marriage (in years) | | Participants (N=44)/ Mean± SD | |
| 1-10 | | 21 (47.7) | |
| 11-20 | | 22 (50.0) | |
| 21-30 | | 1 (2.3) | |
| Mean age at pregnancy | | 17.43± 1.33 | |
| Parity | | | |
| 1 | | 10 (22.7) | |
| 2-4 | | 31 (70.5) | |
| ≥5 | | 3 (6.8) | |
| Total number of pregnancy | | | |
| 1-2 | | 16 (36.4) | |
| 3-4 | | 24 (54.5) | |
| >5 | | 4 (9.1) | |
| Place of residence | | | |
| Remote village | | 9 (20.5) | |
| Forest | | - | |
| Road side | | 35 (79.5) | |
| Physical quality of the roads | | | |
| Good | | 44 (100.0) | |
| Poor | | - | |
| Transport availability | | | |
| Available | | 44 (100.0) | |
| Not available | | - | |
| Distance of sub centre from residence | | | |
| Near to residence | | 44 (100.0) | |
| Far from residence | | - | |
| Availability of first ANM in attached Sub Centre | | | |
| Yes | | 44 (100.0) | |
| No | | - | |
| Availability of second ANM in attached Sub Centre | | | |
| Yes | | 44 (100.0) | |
| No | | - | |
| Availability of ASHA in attached Sub Centre | | | |
| Yes | | 9 (20.5) | |
| No | | 35 (79.5) | |
| Availability of AWW in attached Sub Centre | | | |
| Yes | | 44 (100.0) | |
| No | | - | |

Figures in the parenthesis indicate percentages

4.2. Utilization of health care services during pregnancy

Table 2 shows that more than half of the participants (68.2%) received ANC during their last pregnancy. About 36.4% of the participants walked to health facility for antenatal check-up/test. More than half of the participants (65.9%) regularly availed public health facility (1-4 times) during pregnancy. Majority of the participants received tetanus toxoid (TT) injection (68.2%) and the frequency was twice during pregnancy. Most of the participants (68.2%) received iron tablets but very few of them (22.7%) completed the course of this drug. During antenatal care, about 70.5 % of the participants received supplementary nutrition from Anganwadi Centre. ANC related decision was taken by both participants and their husbands (36.4%), whereas, 47.7% of them did not even discuss on this topic. They preferred to visit health institution by their own choice (72.7%). Surprisingly, majority of the participants (97.7%) did not get any money from *Janani Suraksha Yojana* (JSY) scheme and study also revealed that more than half of the participants (52.3%) have home delivery.

More than half of the participants reported that antenatal check-up was not required for them, whereas, about 35.7% of the participants were not aware about the antenatal check-up at the time of pregnancy (Table 3).

Table 2 The trend in utilization of maternal health care during pregnancy among the participants

| Utilization of maternal health care | Participants (N=44) |
|-----------------------------------------------------------------------------------------|---------------------|
| Registration for antenatal check-ups at any Health Facility | |
| Yes | 30 (68.2) |
| No | 14 (31.8) |
| Women received antenatal check-ups | |
| Yes | 30 (68.2) |
| No | 14 (31.8) |
| Number of visiting at any Health Facility for antenatal check-ups | |
| 1-4 times | 29 (65.9) |
| 5-8 times | 1 (2.3) |
| No visit | 14 (31.8) |
| Place of antenatal check-ups (n=225) | |
| Public facility | 30 (68.2) |
| Not applicable | 14 (31.8) |
| Travel to health facility for antenatal check-ups by | |
| Walking | 16 (36.4) |
| Bus | 14 (31.8) |
| Not applicable | 14 (31.8) |
| Use of IFA tablet | |
| Yes | 30 (68.2) |
| No | 14 (31.8) |
| Complete course of IFA tablet | |
| Yes | 10 (22.7) |
| No | 20 (45.5) |
| Not applicable | 14 (31.8) |
| Receive of TT Injection during antenatal care | |
| Yes | 30 (68.2) |
| No | 14 (31.8) |
| Receive of health related information from Angawadi Centre during antenatal care | |
| Yes | 31 (70.5) |
| No | 13 (29.5) |
| Receive of supplementary nutrition from Angawadi Centre during antenatal care | |
| Yes | 44 (100.0) |
| No | - |
| ANC related decision | |
| Participant and participant's husband both | 16 (36.4) |
| With other members | 7 (15.9) |
| No discussion | 21 (47.7) |
| Freedom to avail health facility | |
| Alone | 32 (72.7) |
| With someone | 12 (27.3) |
| Receive of money from Janani Suraksha Yojana scheme | |
| Yes | 1 (2.3) |
| No | 43 (97.7) |
| Reasons behind not getting the money from Janani Suraksha Yojana scheme | |
| Don't know | 1 (2.3) |
| No bank account | 19 (43.2) |
| Home delivery | 23 (52.3) |
| Not applicable | 1 (2.3) |

Figures in the parenthesis indicate percentages

Table 3 Reasons for non-utilization of maternal health care among the participants

| Non utilization of maternal health care | Participants |
|------------------------------------------------|--------------|
| Reasons for not availing antenatal care | |
| Not required | 9 (64.3) |
| Not customary | 1 (7.1) |
| Poor quality service | 2 (14.3) |
| Family decision | 4 (28.6) |
| No time to go | 3 (21.4) |
| Unawareness | 5 (35.7) |

Figures in the parenthesis indicate percentages

4.3. Socio-demographic characteristics and utilization of health care services

Table 4 shows that utilization of maternal care during pregnancy has been found to be higher among the middle aged participants [(23-30) years], belonging to nuclear family with monthly household expenditure 5,000 (INR) and above, have parity (3-4) in number, residing at road side and have freedom to avail health facility by their own compared to their respective counterparts, though no significant association has been observed between any of the socio-demographic characteristics and use of maternal health services during pregnancy among the participants.

Table 4 Percentage distributions of the participants who received antenatal care (ANC) by socio-demographic characteristics

| Background characteristics | Participants who received ANC | | |
|--------------------------------------------|-------------------------------|------------|----------------------------|
| | Yes | No | χ^2 p |
| Age groups (in years) | | | |
| 15-22 | 6 (20.0) | 2 (14.3) | $\chi^2= 4.24$ p = 0.12 |
| 23-30 | 21 (70.0) | 7 (50.0) | |
| >30 | 3 (10.0) | 5 (35.7) | |
| Family types | | | |
| Nuclear | 21 (70.0) | 13 (92.9) | $\chi^2=2.84$ p =0.09 |
| Joint | 9 (30.0) | 1 (7.1) | |
| Extended | | | |
| Education levels | | | |
| Non literate | 19 (63.3) | 10 (71.4) | $\chi^2= 0.27$ p =0.59 |
| Up to upper primary | 11 (36.7) | 4 (28.6) | |
| Above upper primary | - | - | |
| Occupational types | | | |
| Working | 30 (100.0) | 14 (100.0) | NA |
| Non-working | - | - | |
| Monthly household expenditure (INR) | | | |
| Below 5,000 | 14 (46.7) | 3 (21.4) | $\chi^2=2.56$ p = 0.10 |
| 5,000 and above | 16 (53.3) | 11 (78.6) | |
| Total number of pregnancy | | | |
| 1-2 | 13 (43.3) | 3 (21.4) | $\chi^2= 4.72$ p = 0.09 |
| 3-4 | 16 (53.3) | 8 (57.1) | |
| Above 5 | 1 (3.3) | 3 (21.4) | |
| Parity | | | |
| 1 | 8 (26.7) | 2 (14.3) | NA |
| 2-4 | 22 (73.3) | 9 (64.3) | |
| Equal and above 5 | - | 3 (21.4) | |
| Place of residence | | | |
| Forest | - | - | $\chi^2= 0.83$ p =0.36 |
| Remote village | 5 (16.7) | 4 (28.6) | |
| Road side | 25 (83.3) | 10 (71.4) | |
| Transport availability | | | |
| Yes | 30 (100.0) | 14 (100.0) | NA |
| No | - | - | |
| Road condition | | | |
| Good | 30 (100.0) | 14 (100.0) | NA |
| Poor | - | - | |
| Distance from sub centre | | | |
| Near | 30 (100.0) | 14 (100.0) | NA |
| Far | - | - | |
| Availability of first ANM | | | |
| Yes | 30 (100.0) | 14 (100.0) | NA |
| No | - | - | |
| Availability of ASHA | | | |
| Yes | 5 (16.7) | 4 (28.6) | $\chi^2= 0.83$ p =0.36 |
| No | 25 (83.3) | 10 (71.4) | |

| | | | |
|-------------------------------------------|------------|------------|----------------|
| Availability of AWW | | | |
| Yes | 30 (100.0) | 14 (100.0) | NA |
| No | - | - | |
| Freedom to availed health facility | | | |
| Alone | 24 (80.0) | 8 (57.1) | $\chi^2= 2.51$ |
| With someone | 6 (20.0) | 6 (42.9) | $p=0.11$ |

Figures in the parenthesis indicate percentages, $p \leq 0.05$

4.4. Following are some of the excerpts regarding the health care utilization during the period of pregnancy among the participants using focus group discussion (FGD)

A participant, 26 years old, illiterate, working said, “Though the sub center is nearby, still ASHA or ANM workers do not usually come to visit lactating mothers after delivery. Only ASHA worker comes to village if she gets any information of pregnancy. Even they do not arrange any kind of meeting with us regarding any maternal issue”.

A participant, 31 years old, illiterate, working said, “We do not get iron tablets or other medication in time. Only they provide injection which they think is sufficient for pregnant women”.

A participant, 20 years old, class vi passed, working said, “In an emergency situation during pregnancy, one of my family members was referred to Purulia district hospital from Pathardihi BPHC. She was admitted to Purulia district hospital for near about Rs. 20,000/- from our savings. That time we have lost all our savings. I believe Government should take care of this”.

A participant, 33 years old, illiterate, working said, “Nearby forest is 15kms away at Ayodhya Hill. We collect wood from that forest and sell it to the local market. We get Rs. 25 for each bundle of wood. Local GP has not given any job like 100 days project etc. In this year due to lack of rain, agriculture is affected, therefore we are in severe financial constraints”.

V. CONCLUSION

The present study indicates that though a good number of Birhor women had utilized the maternal health care services during their pregnancy, still few of them were unaware about the importance of such services. Furthermore, the qualitative data reveals that study participants have alleged that the health care providers are not providing adequate care to them.

5.1. Limitations of the study

The present study has certain limitation. First, cross-sectional data are not suitable for finding out cause-effect relationship. Second, there was limited sample size. Finally, participants were asked for events (using structured questionnaire) within the last five years, this could have introduced recall bias.

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