

Obstetric complications during pregnancy & delivery: Cross-sectional study among Baiga tribe in Madhya Pradesh

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Abstract: *Background: Complications during pregnancy and delivery is an major cause of death of mothers. The present study concerned the identify multiple complications during pregnancy & delivery at home and also the association with socio- demographic factors. Study design: This cross sectional study was conducted among the Baiga women of Dindori district in Madhya Pradesh state, Central India during 2009 to 2010. Detecting for complications was surveyed by conducted interview with women by trained investigator through structured questionnaire. It is based on reported by women as experiences of complications during maternity from previous five years from the survey. Results: The multiple complications during the pregnancy were found such as night blindness (35.1%), blurred vision (9.6%), convulsion (22.0%), swelling of the legs, body & face (32.7%), excessive fatigue (3.0%), anemia (33.6%) and vaginal bleeding (2.5%). The logistic regression analysis revealed that the women age 20-34 years have more likely (significantly associated) to affect with complications as night blindness, anemia & vaginal bleeding. The delivery related complications were found significantly higher among younger women (15-29 years). The socio-demographic factors influenced to the risk of complications. Conclusion: The findings of the study showed that the women cover a risk of obstetric complications. There is a need to provide IEC campaign for creating awareness and effective treatment of complications.*

Keywords: Pregnancy, delivery, complication, tribe-marginalized population

Introduction:

The ideally growth and care of baby starts from pregnancy itself and care during pregnancy, delivery influences the outcome. In this concern occurrences of complications during pregnancy & delivery is obvious and leads as major cause of death of mothers. In global picture, the maternal mortality is the most important cause of death among women in reproductive age(15-49 years). The reason behind that the effect of pregnancy & childbirth or the effect of utilization of maternal health care services during the pregnancy and child birth. Utilization of maternal health care services is a proximate determinants of maternal morbidity and mortality (Bhatia JC et al,1995 & Mc. Carthy et al,1992). In this concern around 80% of maternal deaths & 98% stillbirth have been caused by direct obstetric complications, primarily haemorrhage, sepsis, complications, abortion, preeclampsia, eclampsia & prolonged/obstructed labour (Stanton C et al, 2006; Gabrysch S et al, 2009; Turan JM et al, 2007; PAI - MDGs, 2005). The obstetric complications have been used as a predictor of maternal deaths and other pregnancy outcomes. A threatened miscarriage defined as vaginal bleeding before 24 week of gestation, is a complication affecting about 20 percent of pregnancies in India (Anandalakshmy PN et al,1993). So for the obstetric complications in the low-income setting have serious consequences in terms of both socially & medically (NFHS-3, 2007

& Sun YC et al, 2010). In view of this Government of India has initiated many programme & policies to curb down the maternal mortality lined up to develop the health condition of women. In the direction for improve the maternal health to achieve the goal received further momentum from UN Summit on MDG in 2000. Herein the status of India, maternal mortality ratio dropped from 600 in 1990 to 390 in year 2000 and to 200 in 2010 (Sexana D et al,2013). The Madhya Pradesh have higher for the measuring of maternal health, maternal mortality ratio than to the Country. The district Dindori is still ranked in the backward districts of India where the study was done. Consequence about 72% Baiga women had taken at least one ANC checkups having low level of knowledge of such services (D. Kumar, et al 2016). Over and above the traditional cultural norms are an emerging factor for newborn morbidities among Baiga (D. Kumar, A.Vishwakarma et al 2016). Hence, the present article aims to examine the prevalence (%) of multiple complications in tribal population in state of Central India. In addition to aims to appear the pregnancy related complications according to socio-demographic characteristics of women and finally to examine the measure the independent effect of socio-demographic factors on reported particular complications of pregnancy among currently married women.

About The Tribe: This *Baiga* tribe is one of most ancient & primitive aboriginal tribe of India. They are socially and economically backward, illiterate segment. The habitat area is known as *Baigackak* of district Dindori in Madhya Pradesh. They are living in dense hilly forest area and tattooing is an integral part of their lifestyle of women. They are isolated from the main stream of the country, their economy depend on agriculture & forest.

Materials and Methods:

The cross sectional survey was carried out using structured questionnaire with the women. For the estimation of their pregnancy related complications were gathered through conducted individual interview method in 2009 to 2010. The inclusion criteria were used: ever married women age between 15 to 49 years, who have expose to maternity preceding last five years, available at the time of survey, and willing to give written consent. This is a part of the survey of utilization of maternal health care services, pregnancy related complication from individuals was also investigated. So for this was advantage to estimate the prevalence of pregnancy related complication in this marginalized tribal group population. The required sample was estimated by statistical procedure and technique. A total population 2258 of 460 households through 24 villages in three tribal blocks was surveyed with probability proportion to size (pps) sampling procedure. The sampled 500 ever-married women were interviewed on utilization of maternal health care services and awareness on MCH issues. Out of them 380 women who experienced maternity during last five year accessed the practices of maternal health care service utilization. Information on ANC coverage, place of delivery, etc was collected from women who had a live birth. Along with the obstetric complications which refer to the disruptions and disorders of pregnancy, delivery and early neonatal period was also collected for morbidity profile. For pregnancy and delivery related complications investigator were ask to respondent that when you were pregnant did you experience any of the problems/complication. The data were collected for the most recent birth in the five years preceding the survey, the mother were asked whether at any time during the pregnancy had any experience of pregnancy related complications. The information regarding various complications during pregnancy like difficulty with daylight vision night blindness, blurred vision, convulsion not from fever, swelling of the leg, body and face, excessive fatigue, anemia and any vaginal bleeding were collected in the outline of multiple response. A pre-structured and pre tested interview questionnaire envisaged by trained investigators. Each respondent gave informed written consent after explaining the

content, purpose and procedure of the study. In the case of illiterate gave consent in the form of thumbing. All responses were held in reserve confidential and anonymous. The data were analyse with SPSS software version 20.0. This study was approved by Institutional Ethics Committee of National Institute for Research in Tribal Health(ICMR), Jabalpur.

Results:

The survey was completed throughout the three tribal blocks for the subject to cover the desired sample of women. The size of household was estimated 4.9 people. The housing characteristics, total literacy rate of population was 34% & women literacy was 13%. Majority of family was found nuclear (78.5%) & only 26% houses were electrified and as regards 30% family using drinking water from the resource of steam/river. About 89% family are using fuel as wood for cooking and maximum people were occupied in agricultural works.

Complications during pregnancy & delivery:

A total of 380 currently married women were interviewed on the subjects who have experiences of maternity prior to last five year. Among these 380 women, 93% to 97% women responded on their complications when they was pregnant. The complication during pregnancy were distinguished by conducted interview method with the respondents. The women were reported their experiences of multiple complications which faced during the pregnancy period as *Night blindness* (35.1%), *Blurred vision* (9.6%), *Convulsion* (22.0%), *Swelling of the legs, body & face* (32.7%), *Excessive fatigue* (3.0%), *Anemia* (33.6%) and *Vaginal bleeding* (2.5%). These complications were presented in percentage on the basis of reported from currently married women. In addition, complication during delivery were also collected and described in percentage (table-1). The salient findings is that the women reported experience of multiple complications during delivery at home as *Excessive Bleeding* (5.0%), *women in labour more than 12 hours* (7.1%), *Placenta not delivered till 30 minutes* (2.7%), *child not cried at birth* (4.1%) and *Yellow skin of child* (0.8). The hazards estimated among younger women (15-29 years) & older women (30-49 years) for the occurrence of complications during the delivery at home. The problems of *placenta not delivered till 30 minutes* is that likely higher 2.9% (n=271) among younger women and 2.1% (n=92) among elder women (OR;1.43; CI; 0.279 to 6.421,p<0.001). The percentage of problem as *child not cried at birth* was two times higher (OR;2.287; CI; 0.487 to 9.945,p<0.001) among younger women than to elder women.

Table-1. Distribution of multiple complications during pregnancy & delivery (obstetric) of currently married women among Baiga tribe in Dindori district (M. P) in 2009 to 2010

Obstetric complications	No. of women (n)	No. of women reported complication	Percentage
<i>Pregnancy related problems</i>			
Night Blindness	370	130	35.1%
Blurred vision	366	35	9.6%
Convulsion (not from fever)	364	80	22.0%
Swelling	367	120	32.7%
Excessive Fatigue	363	11	3.0%
Anemia	366	123	33.6%
Vaginal bleeding	353	9	2.5%
<i>Delivery related problems</i>			
Excessive Bleeding	377	19	5.0%
Women in labour more than 12 hours	366	26	7.1%
Placenta not delivered till 30 minutes	363	10	2.7%
Child not cried at birth	363	15	4.1%
Yellow skin of child	365	3	0.8%

Pregnancy related complications according to socio-demographic characteristics:

The socio-demographic characteristics of the complications during pregnancy in the present study are given in Table-2. The each complications during pregnancy as *Night blindness*, *Blurred vision*, *Convulsion*, *Swelling of the legs, body & face*, *Excessive fatigue*, *Anemia* & *Vaginal bleeding* distributed according to women background characteristics (Socio-demographic variable) in percentage. Majority of women who have in middle aged 20-34 years were found huge pregnancy related problems in compared to women who have aged in < 20 & 35-49 years. Illiterate women were found more problems during pregnancy while it was lower in educated women. It was found that lower complications among women who experienced first parity (birth order) than second to fourth parity. Age at marriage before completing the 19 years of age were significantly affected to the occurring of morbidities in relation to pregnancy.

Table-2. Percent distribution of multiple complications during pregnancy according to socio-demographic characteristics among the Baiga women in Dindori district Madhya Pradesh during 2009 to 2010

Socio-demographic variable	Percentage of pregnancy related complications						
	Night blindness (35.1%)	Blurred vision (9.6%)	Convulsion (22.0%)	Swelling (32.7%)	Excessive fatigue (3.0%)	Anemia (33.6%)	Vaginal bleeding (2.5%)
Women age <20							
20-34	5.1	1.4	4.7	5.2	0.5	5.7	0.0
35-49	26.5	7.1	15.1	24.5	2.2	24.6	1.4
	3.5	1.1	2.2	3.0	0.3	3.3	1.1
Education							
Illiterate	31.1	8.7	19.9	28.3	3.0	30.0	2.5
Primary	2.9	0.6	1.6	3.6	0.0	3.3	0.0
Middle+	1.1	0.3	0.5	0.8	0.0	0.3	0.0
Parity							
1	8.9	1.4	6.9	9.8	0.8	8.5	0.3
2-4	21.3	6.3	12.5	17.7	1.6	20.5	1.7
5+	4.9	1.9	2.7	5.2	0.6	4.6	0.5
Marriage age							
<19							
>19	31.9	8.2	17.7	27.8	3.0	31.7	2.0
	3.2	1.4	4.4	4.9	0.0	1.9	0.5

Association between complications during pregnancy and socio-demographic characteristics (Results of Logistic Regression):

All the women who have reported particular of obstetric complications in relation to pregnancy were considered as dependent (predictor) variables. The dependent variable was dichotomised as the presence or absence of complications. Literature implies that the prevalence of complications could probably be influence by socio-economic factors as education, income, etc as well as by demographic factors such as age and other pregnancy complications. So for taking these issues into the account, the considered socio-economic and demographic variables as follows; women age, education, parity (birth order), age at marriage as covariate variable and ever experience of pregnancy related complications as dependent variable. For the interpretation, Logistic Regression analysis was done to measure the independent effect of socio-demographic variables on reported particular problems of pregnancy. Logistic regression models were run for the given seven measures of complications and presented the estimated effects of covariates (socio-demographic

variable) on such pregnancy related complications, the odds ratios for each covariate are tabulated. The significant was considered with 5% level of probability found less than ($p < 0.05$). The results of this logistic regression analysis revealed that the women age 20-34 years have more likely (significantly associated) to affect with complications as night blindness, anemia, vaginal bleeding while in older women aged 35-49 years found the complication of convulsion. Educated women have less likely the chance to exposure the problems except the blurred vision this may be due to malnutrition. The higher birth order 2 to 4 significantly associated with night blindness, blurred vision & anemia while birth order 5 and above with the swellings problem. The women who got early marriage (<19 years) have more likely to occurrences of the complications of swelling and anemia compared to women married after the completion of aged 19 years (Table-3).

Table-3. Results of Logistic Regression Analysis of the distribution of complications during pregnancy according to their socio-demographic characteristics among the Baiga women in Dindori district Madhya Pradesh (2009 to 2010).

Socio-demographic Variable	Coefficient of the Risk (B) according to maternal variable (Each complication recoded yes=1,no=2)						
	Night blindness	Blurred vision	Convulsion	Swelling	Excessive fatigue	Anemia	Vaginal bleeding
Women age							
<20(R)							
20-34	1.324*	0.467	0.560	0.963	0.795	1.265*	20.157*
35-49	1.175	0.999	1.326*	1.006	0.885	1.537	15.235
Education							
Illiterate (R)							
Primary	0.746	0.945	0.731	0.564	0.000	0.127	0.000
Middle+	0.949	1.577*	0.873	0.587	1.255	0.134	1.270
Parity							
1(R)							
2-4	1.535*	4.702*	1.096	0.964	1.314	1.472*	0.379
5+	1.141	1.530	0.978	1.277*	1.360	1.050	0.330
Marriage age							
>19 (R)							
<19	2.220	0.922	0.464	0.920*	0.193	3.839*	1.012

(R) Reference category

* $p < 0.05$

Discussion:

The estimated prevalence of multiple complications such as blurred vision (9.6%), convulsion (22.0%) and swelling (32.7%) were found higher in this studied population as compare to rural area of India, according to which prevalence of complications was blurred vision 7.2%, convulsion 11.3%, swelling 24.1% (NFHS-3 India 2005-2006). A considerable proportion of pregnant women in India have been at the risk of serious obstetric complications and most of them

had been suffering from multiple complication (Chaurasia AR, 2006; Singh P et al & Aggarwal A et al,2007). The Baiga tribe have low awareness and underutilization of MCH services due to wrong perception in relation to the pregnancy and safe delivery (D.Kumar,A.K.Goel et al 2016). The present study was concentrated on disadvantaged tribal group living in very backward pocket. The findings of the study were shown among the tribal women had experienced obstetric complications during pregnancy and delivery at home. The socio-

demographic factors were found affecting to the problems. The high prevalence of complications may be due to poor socio economic status, majority of houses *Kachcha* (made by mud) and dependence on livelihood on forest produce and daily wages labours. On the basis of findings of this study provided convinced significant insights for health policy interventions for prevention of obstetric complication during pregnancy and delivery. The pregnancy related illness and complications during pregnancy and delivery are known to have a significant impact on the foetus, leading to poor pregnancy outcomes (Anandalakshmy PN et al, 2006;RGI-2006 & Chaurasia AR, 2006). The World Bank has estimated that 74 percent of maternal deaths could be averted if all women have access to interventions that address complications of pregnancy and childbirth, especially emergency obstetric care (Adam Wagstaff et al,2004). While the interventions that could save their lives are widely known, they are often not available to those most in need. Complications of pregnancy and childbirth cause had more deaths and disability than any other reproductive health problems such as millions of women in developing countries experience life threatening and other serious health problems related to pregnancy or childbirth (EC/UNFPA, making pregnancy & child birth 2000). In view of the findings of the study a essential obstetric care needed there for the management of normal and complicated

pregnancy, delivery and the postpartum period for healthier outcome.

Conclusion:

The study among tribal women reveals complications during pregnancy required proper treatment at the time to save their life and healthier outcomes. Opinion leads to very few women had able to sought treatment for their problems due to lack of awareness, transportation, financial, etc. As it is the reporting the complications during the period of pregnancy by vulnerable women and the time of delivery at home is serious issues. which needs to take attention for the policy and intervention for create building awareness among women in reproductive age (15-49 years) along with essential obstetric care required there for in good health.

Acknowledgements:

We sincerely thank to Director, National Institute for Research for Tribal Health, Jabalpur for providing the financial assistance for this work. We are grateful to the District authorities especially BMO of concern PHC/CHC for best cooperation throughout the survey. We also thankful to all the respondents for their cooperation for the interview. We also express our appreciation for investigators for data collection, compilation and cleaning and entry for the achievement of the study.

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