

## Women attitudes determination among who had not-used antenatal care services during pregnancy in Central India: A logistic regression analysis

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### Abstract

**Background:** Women attitudes are important components for the utilizing health care services especially during pregnancy. This research article aimed to classify and determine the multiple attitudes as reasons among women who had not taken ANC services during pregnancy.

**Methodology:** The study were conducted with cross sectional design among the Baiga women in Dindori district of Madhya Pradesh during 2009 to 2010. For the estimation of attitudes investigators were surveyed by the method of conducted interview with the women who had not used ANC services through structured and pretested questionnaire. On reported attitudes by women as believe and feeling regarding pregnancy care recorded from previous five years from the survey.

**Analysis:** The data were analyze to know the level and determinants of women attitudes with background characteristics of 107 who have not taken any antenatal care during pregnancy.

**Results:** Women attitudes for not using the ANC facility varies from 81.3% lack of knowledge to 20.6% poor quality services followed by Not necessary (72.9%), No time to go (61.7%), Better care at home (59.8%), No transport facility (55.1%), Cost too much (40.2%) & Family did not allow (29.9%). The socio-demographic factors influenced to the risk of not taking ANC services during pregnancy. The level of women knowledge on antenatal care issues were observed very deprived. The women characteristics as elder age (>29 years), age at marriage below 19 years and illiteracy are significantly associated as barrier for not utilizing the available MCH services. Attitudes for pregnancy care expose by logistic regression analysis revealed as family did not allow with older age (OR=0.257) and poor quality service (OR=6.444) & cost too much (OR=4.056) with age at marriage < 19 years were found significantly association (p<0.05).

**Conclusion:** The findings of the study showed that the women cover a risk of pregnancy care due to poor socio-demographic characteristics. So for require to generate awareness on MCH issues among women and effective provisions to develop their socioeconomic condition.

**Keywords:** Women Attitudes, Pregnancy Care, Tribe-Disadvantage Population.

### Introduction

In support of improving health of mothers, the Millennium Development Goal (MDG) 5 is focused on reducing maternal mortality and achieving universal access to reproductive health care. So for, India has made extensive efforts to reduce maternal mortality and to increase access to reproductive health care. It has found much progress in some regions, however the progress made has been uneven and inequitable and many of women still lack of access to maternal and reproductive health care. Use of maternal health care services are not adequate in rural India especially in tribal communities. The availability and accessibility of health care providers is also low in tribal dominated district in Madhya Pradesh. The proper pregnancy care depends timely health care checkups as per standard norms influences the healthy outcome. In the case of not using proper pregnancy care probability of occurrences of complications during the pregnancy and delivery is noticeable leads as main reason of death of mothers. For the views studied reported that about 80% of maternal deaths and 98% stillbirth had the caused by direct obstetric complications; primarily haemorrhage, sepsis, complications, abortion, preeclampsia,

eclampsia and prolonged/obstructed labour (Stanton C et al, 2006; Gabrysch S et al, 2009; Turan JM et al, 2007; PAI - MDGs, 2005). In a study conducted in Rajasthan reported 20% pregnancy related deaths (Kirti Iyergar et al, 2009). So for the mother health can be saved if all mother takes proper maternal health care services it also depend on mother knowledge and attitudes on the issues. The mother attitudes for the use of services in relation to maternity have been taken as a predictor of pregnancy care. For measuring of maternal health, maternal mortality ratio have higher in Madhya Pradesh than to the Country. The tribal dominated district Dindori is still ranked backward in India where the study was conducted and reported about 72% of Baiga women had taken at least one ANC checkups and having lower knowledge of maternal health care services (D. Kumar, et al 2016). In addition to the child health status profile had observed the traditional cultural norms are an emerging factor for newborn morbidities among Baiga (D. Kumar, A. Vishwakarma et al 2016). For this reason, the article aimed to examine the frequency of multiple attitudes among women who had not taken ANC services during pregnancy in such tribal population. Additionally to

aims examine the women attitudes according to socio-demographic characteristics and finally to established the correlation measurements between socio-demographic factors and women attitudes for the estimation. *About The Baiga tribe*; The Baiga tribe is an PVTG (particular vulnerable tribal groups) of Madhya Pradesh. This tribe is one of most ancient and primitive aboriginal tribe of India also. They are poor, backward in socially and economically and segment of illiterate. The main habitat area is known as *Baigackak* area in district Dindori of Madhya Pradesh. This tribe are isolated from the main stream of the country, their economy depend on agriculture and forest due to residing in dense forest, hilly areas. The fashion of tattooing is an integral part of their lifestyle of women.

### Materials and Methods

A community based cross sectional study was conducted in 24 villages in Dindori district in Madhya Pradesh. The survey was carried out using structured questionnaire. For the determination of women attitudes for not taken ANC services during pregnancy 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 previous 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 women attitudes from individuals who had not used ANC services was also investigated. This is advantage to estimate the women attitudes of pregnancy care in this vulnerable tribal population. The adequate sample was estimated by statistical procedure and technique. A total population 2258 of 460 households through 24 villages in three tribal blocks were surveyed with probability proportion to size (PPS) sampling procedure. A 500 ever-married women were interviewed on utilization of maternal health care services and awareness. Out of them 380 women who experienced maternity during last five year access the practices of service utilization. Information on ANC coverage, place of delivery, etc was collected from women who had a live birth and pregnant. The mother were asked why you not taken any ANC services during pregnancy. The information regarding various attitudes as a reasons for not used the available services during pregnancy like Lack of knowledge, Better care at home, Family did not allow, Poor quality service, No transport facility, No time to go, Cost too much & Not necessary were collected in the outline of multiple response. For the purpose, pre-structured and pre-tested interview questionnaire envisaged by trained investigators. After explaining the content, purpose and procedure of the study, each respondent gave informed written consent. The illiterate women gave consent in the form of thumbing in the presence of family member. On the issues, all responses were held in

reserve confidential and anonymous except members of research team. The data were entered in the computer and after cleaning, validation analyse with SPSS software version 20.0 for the test results. This study was approved by Institutional Ethics Committee of National Institute for Research in Tribal Health (NIRTH), Indian Council of Medical Research, Jabalpur, Madhya Pradesh.

### Statistical Analysis

Simple percent distribution is used to examine the women characteristics, women attitudes & level of women attitudes according to their socioeconomic status. Logistic regression analysis were done for the estimation of attitudes for identify the factors which strongly associated. The outcome variables of several attitudes were re-coded in dichotomous in two categories. The basic form of binary logistic regression is describe in functional equation form is  $\text{Log}(p/1-p) = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + \dots + b_kx_k$ . Where  $p$  is the estimated probability of any measures of attitudes,  $b_0$  is constant,  $b_1, b_2, b_3, \dots, b_k$  are the coefficients of independent variables (covariates)  $x_1, x_2, x_3, \dots, x_k$ . An estimated odds ratio (B) of 1 indicates that the attitudes is no different from the reference category. If the estimated odds ratio (B) > 1 indicates that the likelihood attitudes is higher relative to the reference category. If the estimated odds ratio (B) < 1 indicates that the probability of attitudes is lower relative to the reference category. The level of significance consider of the probability at 5% ( $p < 0.05$ ) and 10% ( $p < 0.10$ ), identified clearly in the table as remarks symbol. The estimated effects of covariates on women attitudes the odds ratios for each covariates are tabulated.

### Results

The data collection of the study was completed all through the tribal blocks namely Bajaj, Samanapur and Karanjia for the subject matter with the coverage desired sample of women. The probability to size sampling (PPS) method was adopted to draw the sample and the women were intervened under the cross sectional design. The household size was estimated about 5 people per house. The housing characteristics were estimated as total literacy rate of population 34% & women literacy was 13%. A bulk of family was establish as nuclear (78.5%) & only 26% houses were found electrified. Besides regards about 30% family were using drinking water from the resource of steam/river. For cooking pattern about 89% families were using fuel as wood/animal dug. Most of people were occupied in agricultural and labour works.

**1. Characteristics of women (respondent):** Table 1 represents the distribution of individual level of socio demographic characteristic of women who have not taken any ANC checkups ( $n=107$ ) during the pregnancy. The important dimension for the utilization of MCH services as level of women

education easily find out that a significant proportion of women are illiterate (84.1%). The age at marriage were seen the majority in early age as details significant amount of women are married before the completion of age 19 years (81.3%). Amount of women in younger age (15-29 years)

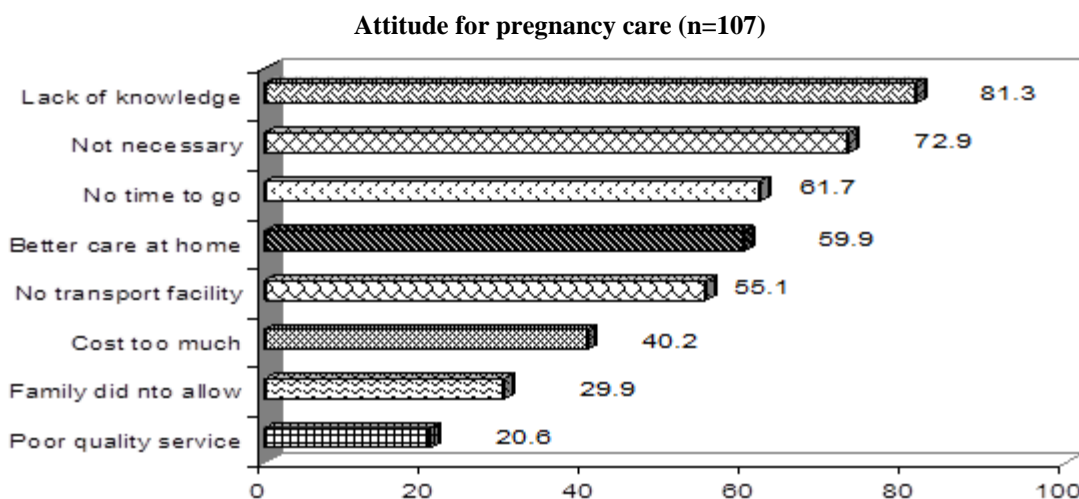
are more than two times higher (68.2%) compared to lower (31.8%) among women in older age (35-49 years). It was observed clearly that about one woman (21.5%) of every five women have reported the awareness of MCH services.

**Table 1: Descriptive statistics of women according with their socio-demographic characteristics of Baiga in Dindori district Madhya Pradesh during 2009 to 2010**

Socio-demographic Characteristics of women		Number of women	%
Women age (yrs)	15-29	73	68.2
	35-49	34	31.8
	<b>Total</b>	<b>107</b>	<b>100.0</b>
Women Education	Illiterate	90	84.1
	Literate	17	15.9
	<b>Total</b>	<b>107</b>	<b>100.0</b>
Age at marriage	<19	87	81.3
	>19	20	18.7
	<b>Total</b>	<b>107</b>	<b>100.0</b>
Knowledge of MCH Services	Yes	23	21.5
	No	84	78.5
	<b>Total</b>	<b>107</b>	<b>100.0</b>

**2 Women attitudes for not use the ANC services during pregnancy:** Out of 500 ever married women, 380 were experienced maternity during the five years. So for 380 women were interviewed on the subjects as utilization of MCH services and their attitudes in the case of not used the services. As details of them 273 (71.8%) taken antenatal care services and rest of women 107(28.2%) were not taken any antenatal care. Among these 107 women responses on her attitudes were recorded as a reason of not used the services. The women were reported their multiple attitudes which

feeling/thinking during the pregnancy. The women attitudes describe in frequency distribution and given in Figure-1. This attitudes for not using the ANC facility varies from 81.3% lack of knowledge to 20.6% poor quality services followed by Not necessary (72.9%), No time to go (61.7%), Better care at home (59.8%), No transport facility (55.1%), Cost too much (40.2%) & Family did not allow (29.9%). These attitudes were presented in percentage on the basis of reported from interviewed women.



**Fig. 1: Distribution of multiple attitudes during pregnancy of currently married women among Baiga tribe in Dindori district (M. P) in 2009 to 2010**

**Table 2: Percent distribution of multiple attitudes of mother for not using the ANC services 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 attitudes							
	Lack of knowledge n=87	Better care at home n=64	Family did not allow n=32	Poor quality service n=22	No transport facility n=59	No time to go n=66	Cost too much n=43	Not necessary n=78
<b>Women age</b>								
15-29	69.0	68.8	53.1	59.1	72.8	69.7	67.4	69.2
30-49	31.0	31.2	46.9	40.9	27.2	30.3	32.6	30.8
<b>Women education</b>								
Illiterate	86.2	87.5	81.2	81.8	86.4	84.8	86.0	88.5
Literate	13.8	12.5	18.8	18.2	13.6	15.2	14.0	11.5
<b>Age at marriage</b>								
<19	82.7	78.1	81.2	59.1	79.6	78.8	69.8	79.5
>19	17.3	21.9	18.8	40.9	20.4	21.2	30.2	20.5

### 3 Level of women attitudes according to socio-demographic characteristics:

The distributions of socio-demographic characteristics of women according to attitudes for not used ANC services during pregnancy are presented in Table-2. The each attitudes of women as *Lack of knowledge*, *Better care at home*, *Family did not allow*, *Poor quality service*, *No transport facility*, *No time to go*, *Cost too much* & *Not necessary* distributed according to women background characteristics as socio-demographic in percentage form. Majority of women who have in younger aged 15-29 years were found huge amount of all listed attitudes as ranges family did not allow (53.1%) to no transportation facility (72.4%) compared to the attitudes were seen below 33.0% among older women aged 30-49 years. All listed attitude were found significantly higher more that 80.0% among illiterate women. Similar to women education, age at marriage before the completion of 19 years of age were also found significantly higher more than 59.1%. Attitudes for not taken MCH services among illiterate women were found more problems while it was lower in educated women. We here described that this negative attitudes for the maternal health care has highly correlated with the illiterate women in tribal area. Age at marriage before reaching the 19 years of age were significantly affected to the not utilizing the available ANC related services may leads occurring the morbidities during pregnancy

### 4 Estimation of women attitudes for not taken ANC services:

The results of logistic regression models for several dimensions of women attitude of maternal health care specially for the care during pregnancy. The given all variables are equally important in determining the any dimensions of

attitude for not using the available ANC services in study area. Attitude wise logistic regression analysis were done and coefficient values of risk factor (B) putted in Table 3. For each attitude the results are discussed below as separate section;

**Lack of knowledge:** Women's age were found to be important predictors of the lack of knowledge among women. Women who have in age between 35-49 years were 1.3 times more likely to lack of knowledge regarding the utilization of ANC services during pregnancy as compared to younger women aged 15-29 years. Literate women were found to be less likely of the attitude of lacking knowledge than to illiterate women. Women who had married before the reaching of age 19 years were found low level of lacking knowledge when compare from the reference category as women married after the completion of age 19 years.

**Better care at home:** All socio-demographic variables as women's age and age at marriage were establish important predictors for the mother attitude as Better care at home. Older age (35-49) years of women were found 1.4 times likely to higher as compare to younger women (15-29) years of age and age at marriage below 19 years were seen significantly higher ( $p < 0.10$ ) this attitude as better care at home. Along with there is no correlation between illiterate and literate women for this attitude for not using the services in relation to pregnancy.

**Family did not allow:** The significant factor for the attitude as family did not allow to go hospital for ANC checkups were among elderly women aged 30 to 35 years at the 5% probability level ( $p < 0.05$ ). The present age of women and age at marriage were seen not effective of this attitudes as family did not allow for ANC care. However It was found about half ( $OR = 0.503$ ) among literate women than to illiterate women. The effect of age at marriage for this attitude

among who married before the age 19 years were seen about two-third (OR=0.714) as compared to women who were married after 19 years of age.

**Poor quality service:** Women attitude as poor quality service were significantly association among women with age at marriage who married before the age 19 years (OR=6.444,  $p<0.05$ ). In this concern the present age of women and level of educational were observed not effective of this attitude. It was found about more than three-fourth (OR=0.914) among older women age between 35-49 years compared to younger women 15-29 years.

**No transport facility:** Among women who was married before 19 years of age significantly reported that not availability of transportation facility to reach hospital or sub-centre for ANC checkups during the pregnancy (OR=2.622,  $p<0.10$ ) as compared to women who had married after 19 years of age. The women who was in aged 30-49 years reported two times higher (OR=1.993) as evaluate to younger women(15-29 years). About three-fourth (OR=0.777) women statement was also found among literate women than to illiterate women of the problems of reaching hospital due to non availability of transportation facility.

**No time to go:** The all independent variables women's education, age at marriage and present age of women were found to be important predictors of the attitude as no time to go for ANC checkups during pregnancy. Women with schooling consider as literate were 1.6 times more likely to no time to go as compared to illiterate women. Older women (30-35 years) were 1.7 times higher likely to no time to go as compared younger women (15-29 years). While it was estimated 2.1 times more likely to no time to go attitude among women who had married below the 19 years of age compared to married women after 19 years of age.

**Cost too much:** Attitude as cost too much were found significantly association with age at marriage among women who married before 19 years (OR=4.056,  $p<0.05$ ) compared to women's married after the completion of 19 years. The literate women were accounts 1.1 times more likely to be existed attitude cost too much than to women's who were illiterate. This attitude were also found 1.4 times higher likely among older women (30-35 years) than to younger women (15-29 years).

**Not necessary:** Not necessary attitude for the pregnancy care is an adverse components of maternal health services. This attitude revealed higher among literate women's (OR=3.162,  $p<0.05$ ) compared to illiterate women. About 1.9 times higher likely to not necessary were also found among older women (30-35 years) measure up to younger women(15-29 years) and other independent factor age at marriage expose 1.6 times more likely among women married below the 19 years compared to women who had married after 19 years of age.

Over all estimation of women attitudes as family did not allow found strongly associated with older age (35-49 years) women (OR=0.257,  $p<0.05$ ), poor quality service (OR=6.444,  $p<0.05$ ) and cost too much (OR=4.056,  $p<0.05$ ) were revealed significantly association with age at marriage before 19 years. Lack of knowledge, Better care at home, No transport facility, No time to go, Cost too much & not necessary attitudes associated likely to higher with older age women. *Better care at home, No time to go, Cost too much & not necessary* attitudes associated likely to higher with literate women. *Better care at home, No transport facility, No time to go and not necessary* attitudes associated likely to higher with women got married before 19 years.

**Table 3: Results of Logistic Regression Analysis multiple attitudes of mother for not using the ANC services 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 attitude recoded yes=1,no=2)							
	Lack of knowledge	Better care at home	Family did not allow	Poor quality service	No transport facility	No time to go	Cost too much	Not necessary
<b>Women age</b> 15-29(R) 30-49	1.258	1.391	0.257*	0.914	1.993	1.727	1.394	1.885
<b>Women education</b> Illiterate (R) Literate	0.680	1.046	0.503	0.421	0.777	1.637	1.120	3.162
<b>Age at marriage</b> >19 (R) <19	0.648	3.055**	0.718	6.444*	2.622**	2.124	4.056*	1.598

(R); Reference category; Significant Level; \*  $p < 0.05$ , \*\* $p < 0.10$

## Discussion

In concern to not proper utilization of maternal health care services during pregnancy and delivery, women leads to poor health. A hospital based study was carried out at a rural health training centre (RHTC) Bareilly, Uttar Pradesh in 2013 reported that only 24.7% pregnant women received full antenatal care (J.P. Singh et al, 2013). World Health Organization (WHO) recommends that during pregnancy must be required four ANC-checkups for low risk pregnancies and reducing maternal and infant mortality (World Health Organization- 2007). Another study of Belgaum, Karnataka reported about 39.5 % of pregnant women were full antenatal care (C.S. Metgud et al, 2009). The literacy of women has significant bearing on utilization of antenatal care by the pregnant women. Women in rural India have little access to health care resources. A qualitative study in rural region of South Odisha found utilization of health care services by women emerging due to transportation and financial constraints (M. Mahapatro, 2015). The lack of educational resources, distance, cost & transportation, cultural, religious, and family influences all had an impact on women utilizing health care services (Joyce A. Bredesen, 2013;F. A Akum, 2013) and furthermore the similar findings seen in other study also (R K Gupta et al, 2015). The traditional practices in rural area revealed the most common reason for conducting the deliveries at home (S. S. Mumbare, 2011).

The present article was intense to know the attitudes for not using ANC services on disadvantaged tribal group living in very backward pocket. The findings of the study were shown among the tribal women had reported attitudes during pregnancy. The socio-demographic factors were found affecting to this feeling and attitudes. The high level of attitudes for not taking ANC services may be due to poor socio economic status, majority of houses *Kachcha* and dependence on livelihood on forest products and occupation as daily wages labours. The estimated multiple attitudes such as lack of knowledge among women who have in age between 30-49 years were found 1.3 times more likely higher the utilization of ANC services during pregnancy as compared to younger women aged 15-29 years. The significant factor for the attitude as family did not allow to go hospital for ANC checkups were among elderly women at the 5% probability level ( $p < 0.05$ ). The poor quality service were significantly association with age at marriage who married before 19 years (OR=6.444,  $p < 0.05$ ). Also the women who was married before 19 years of age significantly reported that not availability of transportation facility to reach hospital or sub-centre for ANC checkups during the pregnancy (OR=2.622,  $p < 0.10$ ) as compared to women who had married after 19 years of age. The all independent variables women's

education, age at marriage and present age of women were found to be important predictors of the attitude as no time to go for ANC checkups during pregnancy. Women with schooling consider as literate were 1.6 times more likely to no time to go as compared to illiterate women. The attitude not necessary revealed higher among literate women's (OR=3.162,  $p < 0.05$ ) compared to illiterate women. This Baiga tribe have also the 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). On other factors illness and complications during pregnancy and delivery are known to have a significant impact on the foetus, leading to poor pregnancy outcomes and health (Anandalakshmy PN et al, 2006; RGI-2006 & Chaurasia AR, 2006). On the basis of findings of this study provided convinced significant insights for health policy interventions for prevention of identified attitude for not taking ANC services during pregnancy. The interventions that could save their lives and change the wrong attitudes for the care of pregnancy are widely known, they are often not available to those most in need.

## Conclusion

The women attitudes regarding the pregnancy care who had not used the antenatal care services varies from 92.5% lack of knowledge/awareness to 18.7% poor quality service. The level of women knowledge on antenatal care issues were observed very deprived. Only one women (21.5%) of every five women have reported the awareness of ANC services. The present age of women especially elder age (>29 years), age at marriage below 19 years and illiteracy are significantly associated with the wrong perception/attitudes to not taking proper pregnancy care through the existing MCH services. The study among tribal women reveals several wrong attitudes for pregnancy care strongly essential proper interventions to create awareness for making time lived to save their life and healthier outcomes. As it is the reporting the attitudes on pregnancy care by vulnerable tribal women is serious issues on the subject.

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