

## Measurements of care components during antenatal care checkups among Baiga's women in Madhya Pradesh, India

D. Kumar<sup>1,\*</sup>, TB Singh<sup>2</sup>

<sup>1</sup>Scientist D, Dept. of Statistics/ Biostatistics, ICMR-National Institute for Research in Tribal, Health, Jabalpur, <sup>2</sup>Professor, Division of Biostatistics, Dept. of Community Medicine, Institute of Medical Sciences, BHU, Varanasi, Uttar Pradesh

**\*Corresponding Author:**

Email: dk2508@rediffmail.com

### Abstract

Antenatal care is one of the four pillars initiatives of the Safe Motherhood. The aim of this study was to investigate coverage of antenatal care among Baiga women's in M.P. A Cross-sectional community-based study was carried out in Dindori district. The structured questionnaires were used to gather data from women who had been pregnant within the last five year, or currently pregnant. A sample of 380 women investigated for antenatal care coverage 273, (71.8%) women had taken at least one antenatal checkup by different health professionals. Out of them 23% women had taken antenatal care in the first, 43% in second and 34% in third trimester during pregnancy. Care components were measured during and checkup reported by women as weight (63.9%) height (32.2%), blood pressure (41.8%), hemoglobin (23%) and abdomen examination (51.9%). Antenatal care showed a low coverage among Baiga women's due to low awareness, distance to medical facility, etc. Special IEC strategy needed there for creating awareness.

**Keywords:** Antenatal, Care components, Vulnerable population, India

### Introduction

An antenatal care service is a part of the primary health care services for pregnant women and management of the fetus. In India ANC services consist of a set of professional pregnancy checkups, tetanus, immunizations and prophylaxis through iron and folic acid tablets, blood pressure check up and advice and information regarding delivery methods and services, nutrition and postnatal care. The *Baiga* is one of the three primitive (Particular Vulnerable Group) tribes in Madhya Pradesh. They are an underprivileged group of civilization, having often poor access to the health care delivery systems. Antenatal care is an important predictor of safe delivery and provides health information and services that can improve the health of women and infants.<sup>(1,2)</sup> In addition, ANC has a positive impact on the utilization of postnatal health care services,<sup>(3)</sup> while PNC and intra partum care significantly reduce maternal mortality because most death occur in the first week after delivery.<sup>(4,5)</sup> This is consistent with a recent study from India that found ANC visits among the indigenous women of Jharkhand were three fold lower than the national average.<sup>(6)</sup> The maternal mortality ratio in India has declined from 212 in 2007-2009 to 178 in 2010-2012 but it's higher in rural.<sup>(7)</sup> In India a range of cultural factors influence the pregnancy, childbirth and childcare practices.<sup>(8,9)</sup> Utilization of basic health services has remained poor in India.<sup>(10)</sup> Home deliveries conducted at homes and assisted by untrained persons including traditional birth attendants leading to maternal morbidity and mortality.<sup>(11,12)</sup> Dindori is still ranked in the backward districts of India due the indicators such as 37% BPL population, low productivity, very backward pockets of

habitations, poor health and education facilities in respect of the national and international averages. Inadequate infrastructure is the main cause of the backwardness district. The Districts socio-economic indicators shows high IMR (70), Maternal Mortality Rate (390), Birth Rate (26) and Death Rate (10).<sup>(13)</sup> Maternal health care such as antenatal care coverage, vaccination for tetanus toxoid, institutional delivery, KAP of antenatal, natal and postnatal care among mothers, etc. is very poor in rural area especially among the tribal communities. Utilization of maternal health services by the needy people, under the existing system, remained a challenge in tribal area of MP. This comprehensive study on antenatal health care among Baiga's tribe focuses the utilization of health services during pregnancy. Moreover, improving maternal health is one of the eight Millennium Development Goals. It is widely accepted that the use of maternal health services helps in reducing maternal morbidity and mortality. The utilization of maternal health services is a complex phenomenon and it is influenced by several factors. The article aimed to describe the level of ANC use and measurements during pregnancy among Baiga women.

### Materials and Method

A cross sectional surveys with a PPS sampling procedure was adapted to carry out the study. The study was carried out in 24 selected villages among the tribal blocks Bajag, Samanapur and Karanjia in District Dindori of MP. The data was collected by trained investigators through structured questionnaire in the year 2009 -10. A total population 2258 in 460 households was surveyed to cover the sample. Out of

them 380 women who experienced maternity during last five year. Information on ANC coverage was collected from women who had a recent live birth in the five year preceding the survey. The content was explained & obtained consent from individual women before recorded the information.

## Results

**Antenatal Care Coverage:** Table 1 show that the percent distribution of mothers who had a live birth in the five years preceding the survey by source of antenatal care received during pregnancy. Out of 380 women, 273 (71.8%) taken antenatal care services during last five years. Majority of first antenatal checkup was during second trimester (43%) due to lack of awareness. Consumption of IFA tablet and T.T immunizations was reported 68% and 76.3% respectively.

**Table 1: Distribution of Antenatal Care, Tetanus Toxoid (TT) Vaccination, Consumption of IFA**

Characteristics		No. of women	%
Antenatal care	Received at least one antenatal checkup	273	71.8
	Non one	107	28.2
	Total	380	100.0
ANC by trimester	1 <sup>st</sup> Trimester	63	23.0
	2 <sup>nd</sup> Trimester	117	43.0
	3 <sup>rd</sup> Trimester	93	34.0
	Total	273	100.0
T.T. Vaccination	At least one	259	68.2
	None	121	31.8
	Total	380	100.0
Consumption of IFA	Yes	290	76.3
	No	90	23.7
	Total	380	100.0

The antenatal care checkup is more likely (odd ratio=1.109) among women who have exposed to 2<sup>nd</sup> and more experiences of pregnancy compared to 1<sup>st</sup> pregnancy (Table 2).

**Table 2: Analysis of odd ratio; Relation between uses of antenatal care (ANC) services and order of pregnancy**

Order of pregnancy	Antenatal checkup						Ratio	Odd Ratio
	Yes		No		Total			
	No.	%	No.	%	No.	%		
1 <sup>st</sup> pregnancy	85	22.4	31	8.14	116	30.6	2.742	r = 1.109
2 <sup>nd</sup> + pregnancy	188	49.5	76	20.0	264	69.5	2.473	
Total	273	71.8	107	28.2	380	100.0		

**Components of antenatal care:** During antenatal checkups, women's received various care components describes in table-3. Various measurement were taken as weight 63.9%, height (32.2%), blood tests (41.8%), Hemoglobin level (23.0%) and urine tests (9.6%), etc. were done during receiving antenatal care. The relatively low coverage's were found for these two tests (Hemoglobin and Urine test).

**Table 3: Measurement of care component during antenatal care checkups (n =273)**

Measurements	%
Weight	63.9
Height	32.2
Blood pressure (Systolic & Diastolic)	41.8
Hemoglobin level (Anemia)	23.0
Urine test	9.6
Abdomen Examination	51.9

A statistical test;  $X^2_{cal} > X^2_{tab}$  at 5% level of significance with the degree of freedom 5 and establish highly significance at 5% level ( $p > 0.05$ ). The weight measurement, abdomen examination and blood pressure (systolic and diastolic) were found significantly higher. Thus the concluded that care components are not uniformly done in the studied women.

## Discussion

The use of antenatal care services showed a low coverage among Baiga women due to illiteracy and inadequate awareness, etc. The measurements of care components especially Hemoglobin and Urine test were seen low as compared to other components. More ever the concept of healthy mother & infant has been important feature of reproductive health care

programme. Utilization of ANC services among Baiga women can be improved by introducing the IEC activities for increasing awareness on the maternal health care issues especially the health care need from the confirmation of pregnancy for better health of both mother and her child.

### Conclusion

The studies indicated that the mothers who had not received good quality antenatal care were found to be more at risk of having low birth weight babies and other morbidities. Women had taken antenatal care only 43% in the first trimester and 34% in second third trimester during pregnancy. Care components were measured during ANC checkups reported by women blew 50% except weight and abdomen examination. Antenatal care showed a low coverage among Baiga women's due to low awareness, distance to medical facility, etc. Extraordinary IEC strategy needed there for creating awareness among women and community members.

### Acknowledgement

Authors are thankful to the Director of the National Institute for Research in Tribal Health (NIRTH) Jabalpur for providing necessary facilities and cooperation for the study.

### References

1. Bloom's, Lippeveld T, Wypij D. Does antenatal care make a difference to safe delivery/ a study in urban Uttar Pradesh, India. *Health Policy & Planning*, 1999,14(1):38-48.
2. WHO & UNICEF. Antenatal care in developing countries promises, achievements and missed opportunities. An analysis of trends, levels and differentials 1990-2001. Geneva: WHO & UNICEF, 2003.
3. Campbell OMR, Graham WJ. Strategies for reducing maternal mortality: getting on with what works. *Lancet* 2006,368:1284-1299.
4. Li XF, Fortney JA, Kotelchuck M, Glover LH. The Postpartum period: the key to maternal mortality *International Journal of Gynecology and Obstetrics* 1996,54(1):1-10.
5. Bhatia JC, Cleland J. Determinants of maternal care in a region of South India. *Health Transition Review* 1995,5:127-142.
6. Agrawal PK. How much the Indigenous Women of Jharkhand, India is in disadvantageous condition: finding's from India's National Family Health Survey. (Online) 2009.
7. Sample Registration System(SRS) fact sheet report-2012-13.
8. Jeffery, Patricia, Roger Jeffery and Andrew Lyon. *Labour Pains and Labour Power: Women and child bearing in India*, London: Zed Books Ltd, 1988.
9. Sheriffs Abusaleh. *Determinants of Child Health: Search for Maternal Education Effects in Gujarat*, Working Paper No. 47, Ahmedabad: Gujarat Institute of Development Research, 1993.
10. Sarin AR. Underutilization of maternal health services. *World Health Forum*, 1997, 18, 67-68.
11. Reproductive and Child Health Project, Rapid Household Survey, Phase I & II, International Institute of Population Sciences, Mumbai, India (1998-99).
12. Jelka Zupan. Perinatal Mortality in Developing Countries, *New England Journal of Medicine*, 2005,352(20):2047-2048.
13. District prospective plan year 2007-08 to 2011-2012 Backward Region Grant Fund, District Dindori.