

## Influence of Socioeconomic Status and Demographic Factors on Antenatal Care

S.G. Patil\*, G.S. Aher\*\*, Urmila Gavli\*\*\*

### Abstract

According to National Family Health Survey (NFHS-III 2005-06) less than half of women get 3 or 3 plus ANC visits. Even today more than half of the total deliveries are done at home and among them about 50 % are not assisted by health personals. Because of this, there has been a higher rate of maternal morbidity and mortality. Present paper attempts to find the factors which influence the use of maternal health care services during antenatal period. The result reveals factors like caste, educational level, religion, wealth index, birth order, residence, maternal age and exposure to mass media are significant predictors in explaining ante-natal care.

**Keywords:** Antenatal Care; Predictors, Socioeconomic Factors; Demographic Factors.

### Introduction

In India, traditionally little attention has been paid to women in antenatal period; even dais come into picture only at delivery. The maternal and child health program seeks to address this period of neglect. One of the Millennium Development Goal was to reduce the maternal mortality ratio by three quarters between 1990 and 2015.<sup>(1)</sup> To improve the availability of and access to quality health care, especially for those residing in rural areas, poor women, and children, the government recently launched the National Rural Health Mission for the 2005-2012 period. Institutional delivery and post-natal care at a health facility is promoted through the Janani Suraksha Yojana (JSY) in NRHM to improve maternal and newborn care. The available evidence on this programme however suggest while ANC undoubtedly improves maternal and infant wellbeing, these services reached few pregnant women.

As a result of limited antenatal contacts risk factors like age, weight, height, birth interval, parity, previous history of difficult pregnancy or infant loss, evidence of antenatal hemorrhage, poor weight gain, excessive weight gain escape identification.

WHO 2005 survey found that about 80% of global maternal mortality is due to hemorrhage, unsafe abortions, sepsis, hypertensive disorders and obstructed labor. One of the important predictor of safe delivery is Antenatal care (ANC).<sup>(2, 9)</sup> All these deaths can be avoided with key health interventions like provision of antenatal care and institutional or medically assisted deliveries.<sup>(2)</sup> Although it is true that certain obstetric complications cannot be predicted, but one can be educated enough to act as soon as high risk symptoms are seen and prevent serious complications.<sup>(3,4)</sup> ANC is a way to reduce these kind of maternal mortality.<sup>(5)</sup>

Many studies have co-related the socio-economic status with utilization of maternal health services.<sup>(6, 7,8, 9, 10, 11, 12)</sup> The use of antenatal care services in a given population depend not only on the availability and accessibility of services but also on the socioeconomic status of the household.<sup>(13)</sup>

Thus, utilization of antenatal care cannot be achieved merely by establishing health centers. Addressing socioeconomic barriers is imperative for increasing women's overall utilization of health services.

This study examines the complex interaction of socioeconomic factors influencing women utilization of maternal health services at Institution level, Dr. Vikhe Patil Hospital, Ahmednagar District.

**Author Affiliation:** \*Resident, \*\*Professor, \*\*\*Assistant Professor, Department of Obstetrics and Gynecology, Dr. Vikhe Patil Hospital, Vilad Ghat, Ahmednagar, Maharashtra- 414111 India.

**Reprint request:** Gautam Aher, Professor, Department of Obstetrics and Gynecology, Dr. Vikhe Patil Hospital, Vilad Ghat, Ahmednagar, Maharashtra- 414111 India.

Email: drgsaher@gmail.com

### Objective

To identify the major determinants of the utilization of maternal care services in ANC patients.

### Study group

ANC patients with more than 37 weeks pregnancy.

### Methodology

This paper makes an attempt to study analytically the socio-economic and demographic determinants of the use of maternal health care services in 116 ANC patients of more than 37 weeks of gestation.

Here we collected the information related to antenatal care from the antenatal patients visiting Dr. Vikhe Patil, Hospital during the month of January and February 2013 year. Full antenatal care includes basically three antenatal visits, consumption of 90+ iron and folic acid tablets and two tetanus toxoid injections or booster tetanus toxoid injection; if previously immunized within last five year.

The various parameters which we considered to affect antenatal care were: caste, religion, educational level, wealth index, birth order and maternal age, residence, exposure to mass media.

Caste was categorized as SC/ST and others. Religion was divided into Hindu, Muslim and others. Education was categorized into illiterate, primary, secondary and higher. Wealth index was classified as low, intermediate and higher income. Birth order was grouped into 1, 2 to 3 and more than 3. Age was divided as less than 25, 25-34 and 35 and above. Place of residence as urban and rural. And exposure to mass media (newspaper, radio, television and cinema) as exposed and non-exposed.

**Note:** In above tables, Pearson's Chi-square test is used to check association between number of ANC, IFA tablets and immunization status with demographic variables. P-values were obtained for each test. Wherever it required, Fisher's exact test (p-value) was obtained.

It is found that there are substantial differences in the number of antenatal visits, tetanus toxoid injection taken and IFA tablet/syrup consumed. 43.96% of the women did not undergo any antenatal visit. 27.58% women underwent incomplete checkups and only 28.44% of women have received three antenatal check-up. 55.17% of women not received adequate immunization with tetanus toxoid vaccine. It is very alarming that about 53.44% of

women did not consume any number of iron and folic acid (IFA) tablets and only 20.68% women consumed sufficient amount of (IFA)

Although there is no significant statistical difference, percentage of women not taking antenatal visits is more among women of category SC/ST (58.33%) as compared to rest (44%). The percentage of pregnant women receiving adequate immunization with tetanus toxoid injection and consumption of IFA during present pregnancy is substantially lower among SC/ST mothers (66.64%). The majority of women in all religious groups did not receive antenatal care; nonetheless, there is no substantial variation by religion in the likelihood of women receiving antenatal care. No antenatal visits were received by 41.66% of Muslim women and 40% of Hindu women, and 64.70% women from other religion. The percent women not taking any immunization are 53.33, 45.83, 76.47 in Hindu, Muslim and women of other religion. 47.99% of Hindu, 54.16% of Muslim and 76.47% of other religious group women did not take any IFA supplementation.

The majority i.e. 60% of women from higher education group received 3 or more antenatal visits and taken complete IFA supplementation and 80% of them have been adequately immunized. Among illiterate only 21.81% women received 3 or more antenatal visits, 40% women have been immunized adequately and 10.90% taken IFA supplementation. Though, there is no statistically significant difference in relation to antenatal visits and immunization, significant difference was found in IFA consumption among women with higher education in comparison to women with primary, secondary or no education.

Economic level of women has positive relationship and significant impact on the use of full ANC. 100% of women from higher economic group have taken full ANC.

Full ANC by women of first birth order is significantly higher and likelihood of receiving it declines sharply with birth order. 50% of women of first-order births received antenatal care, compared with only 4.76% of women of births of order 3+. Amongst women of first order birth, 90% women received adequate immunization and 40% received IFA supplementation in comparison to 14% and 2.38% respectively in women of birth order of 3+.

Maximum number of patient who have not received antenatal visits (63.04%), immunization (63.04%) and IFA supplementation (86.95%) were from the age group of 24 to 35. ANC is better among younger (15-24) age group patient as compared to patients from other age group (24-35 and >35).

	Number of ANC visits			Adequate immunization with inj.TT		Number of IFA Tablets consumption		
	NO (51)(43.96)	1-2 (32)(27.58)	=/>3 (33)(28.44)	NO (64)(55.17)	YES (52) (44.82)	NO (62)(53.44)	0-89 (30)(25.86)	=/>90 (24)(20.68)
<b>1.Caste</b>								
	7	2	3	8	4	8	2	2
SC/ST(12) (%)	(58.33)	(16.66)	(24.99)	(66.64)	(33.32)	(66.64)	(16.66)	(16.66)
	44	30	30	56	48	54	28	22
Others(104) (%)	(42.30)	(28.84)	(28.84)	(53.83)	(46.15)	(51.92)	(26.92)	(21.15)
Chi-square value (p-value)	1.263 (0.637)			0.715 (0.543)		0.980 (0.716)		
<b>2.Religion</b>								
	30	20	25	40	35	36	24	15
Hindu(75) (%)	(40)	(26.66)	(33.33)	(53.33)	(46.66)	(47.99)	(31.99)	(19.99)
	10	7	7	11	13	13	4	7
Muslim(24) (%)	(41.66)	(29.16)	(29.16)	(45.83)	(54.16)	(54.16)	(16.66)	(29.16)
	11	5	1	13	4	13	2	2
Others(17) (%)	(64.70)	(29.41)	(5.88)	(76.47)	(23.52)	(76.47)	(11.76)	(11.76)
Chi-square value (p-value)	5.702 (0.188)			4.067 (0.130)		6.794 (0.173)		
<b>3.Education</b>								
	28	15	12	33	22	31	18	6
Not taken(55) (%)	(50.90)	(27.27)	(21.81)	(60)	(40)	(56.36)	(32.72)	(10.90)
	16	12	8	22	14	27	4	5
Primary(36) (%)	(44.44)	(33.33)	(22.22)	(61.11)	(38.88)	(75.00)	(11.11)	(13.88)

43.74% of mothers in urban areas had 3 or more antenatal visits, compared to only 17.64% in rural areas. Similarly, IFA coverage (90+) is well below average for the women who belong to rural areas (13.23 %) than in urban areas (31.25%). 66% of women living in urban areas received adequate immunization in comparison to 29.4% in their rural counterparts. A higher proportion of women who were exposed to any mass media (45%) received at least 3 antenatal visits compared to who were not exposed (4%). 70.58% women taken adequate immunization among women exposed to mass media. 70.83% of women from not exposed to mass media group not received any IFA supplementation.

### Conclusion

It is seen that there exist differences in the utilization of maternal health care services by socioeconomic and demographic variables. Religion did not have any significant effect on ANC.

Education and economic level of the women have positive relation with the ANC. This may be because higher education increase awareness towards health related problems. Birth order and women age has a strong negative effect on the use of the ANC.

The use of the full ANC is higher in urban areas compared to rural areas. The shorter distances to antenatal care services and the comparative ease of travel in urban areas, as well as the higher educational attainment of mothers in urban areas could be important factors in explaining the larger proportion of antenatal care visits in urban areas. There exists statistically significant difference in ANC among women exposed and not exposed to mass media which may be because of awareness and motivation created by mass media for ANC.

This reveals that the education and socioeconomic factors are significant predictors in explaining the use of maternal health care services.

### References

- 1) Freedman LP, Graham WJ, Brazier E, Smith JM, Ensor T et al. 2007. Practical lessons from global safe motherhood initiatives: Time for a new focus on implementation. *Lancet*, 370: 1383-91.
- 2) Adam T, Lim S, Mehta S, Bhutta ZA, Fogstad H et al. 2005. Cost effectiveness analysis of strategies for maternal and neonatal health in developing countries. *British Medical Journal*, 331: 1107.
- 3) Bhatia JC, Cleland J 1995. Determinants of maternal care in a region of South India. *Health Transition Review*, 5: 127-142.
- 4) Caldwell JC 1979. Education as a factor of mortality decline: An examination of Nigerian data. *Population Studies*, 33(3): 395-413.
- 5) Nuraini, E and Parker, E (2005) Improving knowledge of antenatal care (ANC) among pregnant women: a field trial in central Java, Indonesia. *Asia Pacific Journal of Public Health*. Vol. 17(1) pp3-8.
- 6) Kanitkar T, Sinha RK 1989. Antenatal care services in five states of India. In: SN Singh, MK Premi, PS Bhatia, A Bose (Eds.): *Population Transition in India*. Vol. 2. Delhi: B.R. Publishing Corporation, pp. 201-211.
- 7) Govindaswamy P 1994. Poverty, Women's Education and Utilization of Health Services in Egypt. In: Brígida García (Ed.): *Women, Poverty and Demographic Change*. Liege, Belgium: International Union for the Scientific Study of Population (IUSSP), pp. 263-285.
- 8) Kavita N, Audinarayana N 1997. Utilization and determinants of selected maternal and child health care services in rural areas of Tamil Nadu. *Journal of Health and Population – Perspectives and Issues*, 20(3): 112-25.
- 9) Bloom SS, Wypij D, Das Gupta M 2001. Dimensions of women's autonomy and the influence on maternal health care utilization in a north Indian city. *Demography*, 38: 67-78.
- 10) Navaneetham K, Dharmalingam A 2002. Utilization of maternal health care services in southern India. *Social Science and Medicine*, 55: 1849-1869.
- 11) Gymiah SO, Takyi BK, Addai I 2006. Challenges to the reproductive-health needs of African women: On religion and maternal health utilization in Ghana. *Social Science and Medicine*, 62: 2930-2944. International Institute for Population Sciences and Macro International 2007. *National Family Health Survey (NFHS) III, 2005-06', India*. Vol. 1. Mumbai: IIPS.
- 12) Dey D 2009. The Reproductive and Child Health (RCH) status in West Bengal: Observations from NFHS surveys in 1992-93 and 1998-99.
- 13) Pandey A, Roy N, Sahu D, Acharya R 2004. Maternal health care services: Observations from Chhatisgarh, Jharkhand and Uttaranchal. *Economic and Political Weekly*, 39: 713-720.