

# Knowledge Regarding Antenatal Care Services in Mothers (15-49 Years) in Rural Areas of Aligarh

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## Abstract

**Introduction:** Antenatal care (ANC) is the care of a woman throughout her pregnancy. The World Health Organization recommends a minimum of four antenatal visits comprising interventions such as tetanus toxoid (TT) vaccination, screening, and treatment of infections and identification of warning signs during pregnancy. The reasons for high maternal mortality ratio in India are inadequate access and underutilization of health services.

**Materials and Methods:** A cross-sectional study was conducted during May-June 2013 in the rural areas of Jawan, Aligarh. The study population comprised married women (15-49 years) who had delivery in the last 5 years. Informed consent was taken from each participant. A total of 100 mothers were selected for the study. Questionnaires were prepared for the study. Data were collected and analyzed using SPSS software.

**Results:** Majority of the mothers responded that pregnant women need to go for ANC checkup (95%). However, only 60% knew correctly the minimum number of ANC visits during pregnancy. 99% of mothers knew that TT should be given during pregnancy, but only 50% knew the correct dose. Although 84% of mothers knew the importance of iron folic acid (IFA) tablet, only 40% knew the correct dose. 85% of mothers knew about birth spacing, and 90% said it to be a good practice. 100% mothers knew that blood pressure should be recorded, but adverse effects of high blood pressure on fetus growth were reported only by 50% of females. More than half of mothers (56%) knew that emotional disturbances affected fetal growth. Most of the mothers knew the importance of blood and urine investigations.

**Conclusion:** Awareness should be developed in the community about the importance of registration for ANC, educating women about the detection of complications during pregnancy, importance of TT injection, IFA tablet, extra nutrition, etc. There is also the need to encourage women to involve their male partners in birth spacing programs. Health workers need to identify the pregnant mother, and they should give reminder before a particular dose of ANC.

**Key words:** Antenatal care, Knowledge, Mothers, Rural areas

## INTRODUCTION

Antenatal care (ANC) is the care of a woman throughout her pregnancy. Almost 90% of maternal deaths occur in developing countries, and over half a million women die each year due to pregnancy and childbirth-related causes.<sup>1</sup> Many women in developing countries do not receive such

care.<sup>2</sup> According to the National Family Health Survey, only about 50% of women received folic acid/iron supplements during pregnancy in India and this percentage is still lower in Rajasthan, Uttar Pradesh, Bihar, and Nagaland.<sup>3</sup> The World Health Organization recommends a minimum of four antenatal visits comprising interventions such as tetanus toxoid (TT) vaccination, screening, and treatment of infections and identification of warning signs during pregnancy.<sup>4</sup> In India, it is heartening to note that maternal mortality ratio (MMR) has declined from 212 in 2007-2009 to 178 in 2010-2012.<sup>5</sup> The reasons for high MMR in India are inadequate access and underutilization of health services. Other common reasons are high illiteracy among females, early marriages, ignorance, malnutrition, social factors, etc. Hence, utilization of these services by

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the beneficiaries remains unsatisfactory.<sup>6-8</sup> Two of the most important indicators of health of a country are life expectancy and maternal mortality rates.<sup>9</sup> Nutrition during preconception as well as throughout pregnancy has a major impact on the outcome of pregnancy.<sup>10</sup> Utilization of ANC is associated with the level of education and family income of the respondents.<sup>11</sup>

The aim of this study was to assess the knowledge of mothers (15-49 years) regarding ANC services in rural areas of Aligarh.

## MATERIALS AND METHODS

A cross-sectional study was conducted during May-June 2013 in the rural areas of Jawan, Aligarh. The study population comprised married women (15-49 years) who had delivery in the last 5 years. Informed consent was taken from each participant. A total of 100 mothers were selected for the study. Questionnaires were prepared for the study. Data were collected and analyzed using SPSS software. Full ANC is defined as at least 3 visits for ANC checkup, at least one TT injection received, and 100 iron folic acid (IFA) tablets/syrup consumed.<sup>12</sup>

## RESULTS

As shown in Table 1, majority of them responded that pregnant women need to go for ANC checkup (95%). However, only 60% knew correctly the minimum number of ANC visits during pregnancy. 99% of mothers knew that TT should be given during pregnancy, but only 50% knew the correct dose. Although 84% of mothers knew the importance of IFA tablet, only 40% knew the correct doses. 96% of mothers knew that smoking or alcohol intake is harmful to the fetus. 85% of mothers said that extra nutrition is necessary for pregnancy. 80% of mothers reported that deliveries should be conducted in institutions.

83% of mothers said that breastfeeding should be started within 24 h. 75% of mothers knew the importance of post-natal care.

As shown in Table 2, 85% of mothers knew about birth spacing and 90% said it to be a good practice. 95% had knowledge of one or other methods of birth spacing.

As shown in Table 3, 100% mothers knew that blood pressure should be recorded, but adverse effects of high blood pressure on fetus growth were reported only by 50% of females. 78% of mothers knew that ultrasonography was safe for fetus. More than half of mothers (56%) knew that emotional disturbances affected fetal growth. Most of the mothers knew the importance of blood and urine investigations.

## DISCUSSION

As shown in Table 1, majority of them responded that pregnant women need to go for ANC checkup (95%). However, only 60% knew correctly the minimum number of ANC visits during pregnancy. This finding was similar to other study,<sup>13,14</sup> in which the respondents had adequate knowledge about ANC registration, IFA tablet supplementation, TT injection, and increase in food intake, but knowledge regarding the number of ANC visits was dismal. The reason of good knowledge in our mothers was might be because of health education given to them by social workers of our center or Accredited Social Health Activists or Anganwadi workers in the villages. In our study, we do not correlate impact of mothers' education on utilization of health services, but other studies found strong correlation between it.<sup>15,16</sup>

Javali *et al.* study<sup>17</sup> and Roy *et al.* study<sup>18</sup> revealed 100% ANC registration.

**Table 1: Knowledge of the respondents on ANC (n=100)**

Questions	Yes/correct	No/incorrect	Don't know
1. Do pregnant women need to go for ANC?	95	1	4
2. If yes, is it required to go for ANC even if there is no complication during pregnancy?	90	6	4
3. What should be the minimum number of ANC visits?	60	22	18
4. Is it necessary to give injection TT during pregnancy?	99	0	1
5. If yes, how many times injection TT should be given?	50	34	16
6. Is it necessary to give IFA during pregnancy?	84	1	15
7. If yes, how many IFA has to be given during pregnancy?	40	10	50
8. Is smoking or alcohol harmful for the fetus?	96	2	2
9. Do pregnant female require extra nutrition?	85	4	11
10. What is the ideal place of delivery?	80 (institutional)	11 (home)	9 (don't know)
11. Breastfeeding within 24 h	83	7	10
12. Postnatal care is important?	75	5	20

ANC: Antenatal care, IFA: Iron folic acid, TT: Tetanus toxoid

**Table 2: Knowledge of the respondents on birth spacing (n = 100)**

Variable	Yes	No
1. Ever heard of birth spacing	85	15
2. Is it a good practice	90	10
3. Knowledge of birth spacing methods	95	5

**Table 3: Knowledge of the mothers on various investigations done during pregnancy (n = 100)**

Knowledge	Correct answers
1. Blood screening for hemoglobin level, hepatitis B infection	89
2. Blood sugar level	80
3. Urine test for bacterial infection	85
4. Is USG safe for fetus	78
5. Blood pressure examination	100
6. Can emotional disturbances affect fetal growth?	56
7. Can high blood pressure affect the fetus growth?	50

USG: Ultrasonography

A study reported<sup>19</sup> results almost similar to our study, for example, 97.9% of mothers responded for ANC checkup although only 55.2% revealed the correct number of ANC visits. Similarly, 98.6% of mothers knew the importance of injection TT during pregnancy, but only 54.1% knew the correct number of times injection TT should be given.

In our study, 99% of mothers knew that TT should be given during pregnancy, but only 50% knew the correct dose. In another study also,<sup>20</sup> pregnant mothers were aware of injection TT and IFA supplementation.

In our study, 80% of mothers said that deliveries should be conducted in institutions. An association between the use of ANC services and health facility delivery was observed in India and in other developing countries.<sup>21-23</sup> Low level of knowledge of antenatal well-being and desire for hospital or assisted delivery was also observed in other studies.<sup>24</sup>

The reasons for knowledge of ANC were might be because of close proximity and therefore easier accessibility of health facilities as stated by Magadi *et al.*<sup>25</sup> that the frequency of ANC is also influenced by the accessibility of ANC service.

85% of mothers knew the importance of extra nutrition during pregnancy in our study. This is contrary to that revealed by Daba *et al.*,<sup>26,27</sup> where most of the respondents did not know the main food groups of the balanced diet and more than half did not know even the meaning of food. Despite the high level of respondents, some confusion and ignorance existed as regards maternal knowledge

of adequate nutrition practices during pregnancy and identification of harmful food items in pregnancy.<sup>28</sup>

As shown in Table 2, 85% of mothers knew about birth spacing and 90% said it to be a good practice. 95% had knowledge of one or other methods of birth spacing. These findings were similar to another study.<sup>29</sup> The reasons of good information were because of good sources of health information such as health facilities, mass media, and family.

As shown in Table 3, 100% mothers knew that blood pressure should be recorded, but adverse effects of high blood pressure on fetus growth were reported only by 50% of females. Another study also reported that about half of the women did not know the complications that might arise among hypertensive and diabetic mothers.<sup>30</sup>

## CONCLUSION

Awareness should be developed in the community about the importance of registration for ANC, educating women about the detection of complications during pregnancy, importance of TT injection, IFA tablet, extra nutrition, etc. There is also the need to encourage women to involve their male partners in birth spacing programs. Health workers need to identify the pregnant mother, and they should give reminder before a particular dose of ANC.

## REFERENCES

- Carroli G, Rooney C, Villar J. How effective is antenatal care in preventing maternal mortality and serious morbidity? An overview of the evidence. *Paediatr Perinat Epidemiol* 2001;15 Suppl 1:1-42.
- Ye Y, Yoshida Y, Harun-or-rashid M, Sakamoto J. Factors affecting the utilization of antenatal services among women in Kham district, Xiengkhouang province. *Lao PDR Nagoya J Med Sci* 2010;72:23-33.
- IIPS. National Family Health Survey-India, 1998-99. Bombay: International Institute of Population Studies; 2003.
- WHO. Global Health Observatory on Antenatal Care. Available from: [http://www.who.int/gho/maternal\\_health/reproductive\\_health/antenatal\\_care\\_text/en/](http://www.who.int/gho/maternal_health/reproductive_health/antenatal_care_text/en/). [Last accessed on 2015 Mar 12].
- Special Bulletin on Maternal Mortality in India, 2010-12. SRS. Office of Registrar General of India. December, 2013. Available from: <http://www.paperzz.com/doc/1951559/sample-registration-bulletin-census-of-India-website>. [Last accessed on 2015 Mar 12].
- Low P, Paterson J, Woules T, Carter S, Williams M, Percival T. Factors affecting antenatal care attendance by mothers of Pacific infants living in New Zealand. *N Z Med J* 2005;118:U1489.
- Okunlola MA, Ayinde OA, Owonikoko KM, Omigbodun AO. Factors influencing gestational age at antenatal booking at the University College Hospital, Ibadan, Nigeria. *J Obstet Gynaecol* 2006;26:195-97.
- Trinh LT, Rubin G. Late entry to antenatal care in New South Wales, Australia. *Reprod Health* 2006;3:8.
- Central Bureau of Statistics. Nepal Census Report 2001: Demography. Kathmandu: Central Bureau of Statistics, WHO.
- World Bank. Repositioning Nutrition as Central to Development: A Strategy for Large Scale Action. Washington, DC, USA: The International Bank for Reconstruction and Development, World Bank; 2006.
- Barbhuiya MA, Hossain S, Hakim MM, Rahman SM. Prevalence of home deliveries and antenatal care coverage in some selected villages. Bangladesh

- Med Res Counc Bull 2001;27:19-22.
12. District Level Household and Facility Survey. 2007-08; (306 Screens). Available from: [http://www.rchiips.org/pdf/INDIA\\_REPORT\\_DLHS-3.pdf](http://www.rchiips.org/pdf/INDIA_REPORT_DLHS-3.pdf). [Last accessed on 2012 Jun 05].
  13. Rajiv KG, Tajali NS, Aruna KV, Jan R. Knowledge regarding the antenatal services, its utilization and delivery practices in mothers (aged 15-49 years) in a rural area of N. India. *Trop J Med Res* 2015;18:89-94.
  14. Onasoga OA, Afolayan JA, Oladimeji BD. Factors influencing utilization of ANC services among pregnant women in Ife Central Lga, Osun State Nigeria. *Adv Appl Sci Res* 2012;3:1309-15.
  15. Fosu GB. Childhood morbidity and health services utilization: Cross-national comparisons of user-related factors from DHS data. *Soc Sci Med* 1994;38:1209-20.
  16. Costello MA, Lleno LC, Jenson ER. Determinants of two major early-childhood disease and their treatment in the Philippines: Findings from the 1993 national demographic survey. *Asia Pac Popul Res Abstr* 1996;1-2.
  17. Javali R, Wantamutte A, Mallapur MD. Socio-demographic factors influencing utilization of ANC services in a rural area-A cross-sectional study. *Int J Med Sci Pub Health* 2014;3:308-12.
  18. Roy MP, Mohan U, Singh SK, Singh VK, Srivastava AK. Determinants of utilization of antenatal care services in rural Lucknow, India. *J Family Med Prim Care* 2013;2:55-9.
  19. Jalina L, Usha DT, Jina P, Mukhia S, Devi HS. Knowledge and practice of ANC in an urban area. *Indian Med Gazette* 2013;???:101-6.
  20. Nomita C, Balwan SD, Indra K, Nirakar CS. Determinants of ANC utilization in rural areas of India: A cross-sectional study from 28 districts (An ICMR task force study). *J Obstet Gynaecol India* 2006;56:47-52.
  21. Kwast BE, Liff JM. Factors associated with maternal mortality in Addis Ababa, Ethiopia. *Int J Epidemiol* 1988;17:115-21.
  22. Dujardin B, Clarysse G, Criel B, De Brouwere V, Wangata N. The strategy of risk approach in antenatal care: Evaluation of the referral compliance. *Soc Sci Med* 1995;40:529-35.
  23. Bloom SS, Lippeveld T, Wypij D. Does antenatal care make a difference to safe delivery? A study in urban Uttar Pradesh, India. *Health Policy Plan* 1999;14:38-48.
  24. Mahadik KV, Deshpande KR. Survey of women for knowledge of cancer, antenatal well being, attitudes and practices in rural, urban and urban slum area of Ujjain district in MP. *J Obstet Gynaecol India* 2003;53:363-6.
  25. Magadi MA, Madise NJ, Rodrigues RN. Frequency and timing of antenatal care in Kenya: Explaining the variations between women of different communities. *Soc Sci Med* 2000;51:551-61.
  26. Daba G, Beyene F, Fekadu H, Garoma W. Assessment of knowledge of pregnant mothers on maternal nutrition and associated factors in Guto Gida Woreda, East Wollega Zone, Ethiopia. *J Nutr Food Sci* 2013;3:235.
  27. Latifa MF, Manal HA, Nihal SS. Nutritional awareness of women during pregnancy. *J Am Sci* 2012;8:494-502.
  28. Yassin SA, Sobhy SI, Ebrahim W. Factors affecting dietary practice among adolescent pregnant women in Alexandria. *J Egypt Public Health Assoc* 2004;34:179-96.
  29. Christina A, Cynthia G, Sarah NA, Ofosu B, Akoto E, Agbi-Dzorkar M. Knowledge, attitude and practice of birth spacing among Ghanaian mothers. Implications for maternal and child nutritional status. *World Appl Sci J* 2014;31:1971-8.
  30. Rosliza AM, Muhamad JJ. Knowledge, attitude and practice on ANC among Orang Asli women in Jempol, Negeri Sembilan. *Malaysian J Public Health Med* 2011;11:13-21.

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