

**ORIGINAL RESEARCH ARTICLE****ANTENATAL CARE PRACTICES IN HILLY AREA OF EASTERN REGION OF NEPAL****RB Sah*, K Gaurav, DD Baral, N Jha and PK Pokharel**

School of Public Health and Community Medicine, BP Koirala Institute of Health Sciences, Dharan, Nepal.

**Correspondence to : Dr Ram Bilakshan Sah, School of Public Health and Community Medicine, BP Koirala Institute of Health Sciences, Dharan, Nepal.
Email: bilaksah@yahoo.com***ABSTRACT**

Antenatal care is provided during pregnancy to save lives of mother and foetus. The World Health Organization recommends four focused visits as sufficient for normal pregnancy. The objective of this study was to find out the antenatal care practices and its impact on birth outcome. The cross-sectional study was conducted from 28th March to 10th April, 2013 among the residents of Dhankuta municipality where 246 households were taken as subjects. Convenient purposive sampling technique was applied. Semi-structured questionnaire was used and face to face interview was conducted. Chi-square test was applied to find out the significant difference between sociodemographic characteristics and outcome variable i.e. birth outcome & antenatal care visits. Almost eighty eight percent of respondents attended ANC visits. The findings revealed that even though the fourth ANC visit was (82.4%), almost 82.5% of the pregnant women took the tetanus toxoid (TT) injections, about 81.7% received iron tablets and nearly 57.7% received albendazole. Women with School Leaving Certificate and higher education level are more likely to ANC visits (95.4%) than women with below SLC (87.9%) and no education (66.7%). Hindu women are more likely to have ANC visits (91.2%) compared to women of other religion (47.4%) ($P < 0.001$). Furthermore, economic variable shows stronger association with ANC visits ($P < 0.001$). We conclude that the women of the surveyed communities have placed antenatal care as priority. Lack of money and education led some of the respondents not to attend the recommended antenatal care visits. Antenatal care checkup is important for favourable birth outcome.

Key Words: *Pregnancy, Foetus, Antenatal Care & Practices.***INTRODUCTION**

Two of the most important indicators of health of a country are life expectancy and maternal mortality rates. ¹ It was supposed that interventions would be needed earlier during the pregnancy to identify women at risk of getting pregnancy related complications, if the mortalities were to be averted. ² The World Health Organization (WHO) recommends four focussed antenatal care (ANC) visits as sufficient for normal pregnancy. ³ Antenatal Checkup includes education, counseling, screening and treatment to monitor ailments and to promote health of the mother and foetus.

Nepal Demography and Health Survey (NDHS) 2006 recommends that the quality of ANC can be assessed by looking at the type of provider, the number of visits and the timing of the first visit. ⁴ The ANC visits by pregnant women is 43.7%, institutional delivery is 17.7%, delivery by Skilled Birth Attendants is 18.7% and postnatal checkups is 33% in Nepal. ⁵ In South East Asian Region, ANC coverage in Sri Lanka is 99% and 44% in Nepal, Skilled birth attendance during delivery in Sri Lanka is 99% and 19% in Nepal and Maternal Mortality Rate (MMR) is lowest in Sri Lanka (23/100,000 live birth) and highest in Nepal (539/100,000 live birth), all of which can be

linked. ⁶ Therefore, this study was conducted to find out the antenatal care practices and its impact on birth outcome among residents of Dhankuta Municipality.

MATERIALS AND METHODS

The cross-sectional study was conducted from 28th March to 10th April, 2013 among the residents of Dhankuta municipality in Eastern Nepal. Among 9 wards, the ward number 4 was randomly selected by lottery method. To represent the women for 62% antenatal care (ANC) visits (Alehagen SA et al in 2012) sample size calculated was 246. All the participants aged 15 to 49 years from the selected households were included in the study. Convenient purposive sampling technique was applied for data collection.

A written permission was taken from concerned authority and an informed verbal consent was taken from the participants of the study. Those families which were available after three visits and willing to give verbal consent were included in the study. Pretested semi-structured questionnaire was administered to the study subjects in the presence of investigator and face to face interview was conducted.

The collected data was entered in MS Excel 2000. The analysis was done by using statistical software SPSS (Statistical Package for Social Science) 17.0 version. Chi-square test was applied to find out the significant difference between sociodemographic characteristics and outcome variable i.e. birth outcome & antenatal care visits. The probability of occurrence by chance is significant if $P < 0.05$ with 95% Confidence Interval.

RESULTS

Table 1: Antenatal care practices (n=246)

Characteristics	Frequency	Percent
ANC visit		
Yes	216	87.8
No	30	12.2
If ANC visits done, then how many visits		
One	12	5.6
Two	12	5.6
Three	14	6.5
Four	178	82.4
Number of TT vaccine taken		
No	43	17.5
One	18	7.3
Two	185	75.2
*Supplements taken during pregnancy		
Fe	201	81.7
Folic acid	135	54.9
Albendazole	142	57.7
None	44	17.9
*Consume during pregnancy		
Alcohol	16	6.5
Cigarettes	10	4.1
Tobacco	12	4.9
Others	244	99.2
**Place of delivery		
Home	84	37.2
Health care facility	142	62.9
If home delivery, what instrument used		
Delivery kit (Sutkeri samagri)	14	16.7
Sterilized blade	58	69.0
Others (Knife, scissor)	12	14.3

*percentages are based on multiple responses

**n=226 (As 16 respondents were pregnant & 4 had abortion)

ANC: Antenatal Care

Table 1 shows that eighty eight percent of respondents attended ANC visits. The findings revealed that the fourth ANC visit was

usually satisfactory, other visits were more poorly attended. Almost eighty three percent of the pregnant women took the tetanus toxoid (TT) injections, about eighty two percent received iron tablets and nearly fifty eight percent received albendazole.

Table 2: Association between sociodemographic characteristics with antenatal services

Characteristics	ANC visit		Total	P Value
	Yes	No		
Age group				
15-24	56 (84.8)	10 (15.2)	66	0.292
25-34	92 (87.6)	13 (12.4)	105	
35-49	68 (90.7)	7 (9.3)	75	
Religion				
Hindu	207 (91.2)	20 (8.8)	227	<0.001
Others (Buddhist, Christian)	9 (47.4)	10 (52.6)	19	
Ethnicity				
Brahmin/Chhetri	87 (90.6)	9 (9.4)	96	0.266
Janajati/Kirati	108 (86.4)	17 (13.6)	125	
Others (Dalit, Terai caste)	21 (84.0)	4 (16.0)	25	
Education of wife				
Illiterate	26 (66.7)	13 (33.3)	39	<0.001
Below SLC	87 (87.9)	12 (12.1)	99	
SLC and above	103 (95.4)	5 (4.6)	108	
Education of husband				
Illiterate	3 (33.3)	6 (66.7)	9	0.135
Below SLC	95 (93.1)	7 (6.9)	102	
SLC and above	118 (87.4)	17 (12.6)	135	
Economic status				
Below poverty line (< 1.25 US\$)	80 (79.2)	21 (20.8)	101	<0.001
Above poverty line (\geq 1.25 US \$)	136 (93.8)	9 (6.2)	145	
Total	216	30		246

SLC: School Leaving Certificate.

Table 2 shows that women with Hindu religion are more likely to have ANC visits compared to women of other religions. The relationship between ANC visits and the highest education level of women shows that the utilization of ANC visits increases as education level increases. Furthermore, economic variable shows stronger association with ANC visits ($p < 0.001$).

Table 3: Association between birth outcome with antenatal services (n=246)

Characteristics	ANC visit		Total	P-value
	Yes	No		
Outcome of 1st pregnancy				
Live	199 (90.9)	20 (9.1)	219	0.012
Others (Abortion, still birth)	3 (27.3)	8 (72.7)	11	
Presently pregnant	14 (87.5)	2 (12.5)	16	
Fetal complications				
Yes	4 (19.0)	17 (81.0)	21	<0.001
No	195 (98.5)	3 (1.5)	198	
Birth weight of 1st baby				
<2.5 kg	7 (30.4)	16 (69.6)	23	<0.001
2.5-3.5 kg	173 (98.9)	2 (1.1)	175	
>3.5 kg	19 (90.5)	2 (9.5)	21	

Fetal complications including birth asphyxia, jaundice, febrile illness and congenital malformations was also higher among them with no ANC. The proportion of low birth weight (<2.5 kg) babies was higher in women with no ANC.

DISCUSSION

Poor antenatal care is an important risk factor for adverse pregnancy outcomes among women.² In current study, the ANC visits were made by 87.8% of women which was higher than study conducted by Sanjel S et al in Nepal (78.9%) of women,⁷ Pradhan A in Nepal (78%),⁸ National average (43.7%).⁴ This shows that the women in Hilly area of Eastern region of Nepal was aware about pregnancies involve some risks to the foetus, and to prevent, detect and manage complications early before they become life-threatening emergency. Shiffman suggested that antenatal visits enable health personnel to provide information about nutrition, hygiene, and danger signs.⁹ Our study showed very less (12.2%) of women did not attend antenatal services. It may be due to fear/ embarrassment, problems not felt, thought not necessary, did not have time and unclear response.

Almost eighty two percent of respondents completed four ANC visits which is higher than study conducted by Sanjel S et al in Nepal (61.4%)⁷ and Pradhan A in Nepal (62%).⁸ Rooney argued that, whether antenatal care can prevent maternal mortality and serious morbidity is a difficult question to answer, but antenatal care is more beneficial in preventing adverse pregnancy outcomes when it is sought early in the pregnancy and is continued through delivery.¹⁰

A study conducted in Nepal showed that 95% of women have taken the iron tablet.⁷ Our study showed majority of women (81.7%) have taken the iron tablet which is lower than other study ie 18.3% of women did not take the iron tablet, the reasons behind it were fear of side effect, due to dislike, due to not knowing its importance and due to forgetting to take iron tablets.

Almost eighty three percent of the pregnant women took the tetanus toxoid (TT) injections which is lower than other study

conducted in Nepal (98%) of women took tetanus toxoid (TT) vaccine⁷ and higher than study conducted by Pradhan A in Nepal (72%),⁸ the national average (63.0%).^{4,11}

This study showed only sixty three percent of deliveries were carried out in hospital which is lower than a study conducted in Nepal (66%) of deliveries were hospital deliveries.⁸

Age had a negative relationship with the utilization of ANC and it was found that the young women were more likely to seek antenatal care than older one.^{3,12} It is well recognized that women's current age play important role in the utilization of antenatal care services.¹³ But our study showed that the old women were more likely to seek antenatal care than younger one. Obermeyer and Potter illustrated that the age at marriage was not significant predictors of utilization of antenatal care.¹⁴

This study showed that attendance of ANC visits among the women with SLC and above was higher (95%) than those below SLC (87.9%) and illiterate (66.7%). Several studies have found a strong association between education and utilization of antenatal services.¹⁵ The result from this study also supports the positive association between the education and utilization of ANC visits. It may be due to the women with higher education might have an enhanced knowledge of modern health care services.

This study showed 79.2% of the poorest women and about 94% of the richest women have attended at least one ANC visit. In Nepal 22% of the poorest women and 67% of the richest women have attended at least one ANC.¹⁶ Similar findings with respect to socio-economic status are reported in Kenya.^{17,18} Women living in the poorest condition use antenatal services much less frequently than do those in the richest. Most of the women in

our study have stated financial problem as the most common factor for non attendance of ANC.

There was stronger significant relationship between antenatal care visit and low birth weight babies ($p < 0.001$). Pregnant women who received antenatal care had infants with birthweights significantly higher than those who did not receive antenatal care ($P < 0.001$).¹⁹ It was evident that a better outcome of pregnancy could be achieved if mothers seek antenatal care. Better outcomes can be attributed to maternal counseling, complete immunization coverage, longer health monitoring and longer duration of nutrient supplements during pregnancy.²⁰

CONCLUSION

The women of the surveyed communities have placed high importance on antenatal care. Among the surveyed women, a large percentage had completed all four recommended ANC visits. Use of necessary medicine such as iron tablets, albendazole tablets and TT injection were also completed. Lack of money and education were the major problem which led some of the respondents not to attend the recommended antenatal care visits. The result of birth outcome showed that complete ANC visit was favourable. Therefore, increased attention is needed to ensure poor and less educated, obtain better access to antenatal services. Programs to improve birth outcome should include promotion of maternal literacy, and early and regular antenatal checkup.

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