

## PUBLIC HEALTH

### UTILIZATION OF ANTENATAL CARE SERVICES IN COMPREHENSIVE HEALTH CENTRE (CHC) GINDIRI

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#### ABSTRACT

**OBJECTIVES;** To determine if ANC utilization influences respondents' choice of place of delivery Also to investigate how some personal factors influence pattern of use of ANC services and choice of preferred place of delivery.

**METHODS:** ANC records of 676 pregnant women who attended the ANC Clinic of JUTH CHC. Gindiri between January 2000 and December 2002 were reviewed. The mothers were traced subsequently to determine their place of delivery. Data generated were collated and analyzed using the Epi info 2000 computer software.

**RESULTS:** The mean age of the subjects was 25.3+- 5.92 years. Almost half of them were literate and majority had parity of <4. The median gestational age at booking among the mothers was 24.9 weeks and up to 62.4% of the mothers had about 1-4 ANC visits during the index pregnancy. However as much as 72.2% of the mothers delivered at home for the index pregnancy. Half of the mothers who delivered at home gave on reason for their conduct, whereas 73.5% of those who delivered in the health facility did so for safety. In this study, mothers' age parity and occupation were found to significantly influenced mothers' utilization of ANC Services, while only mothers' age and educational status were statistically found to significantly influenced mothers' choice of place of delivery. The study also observed a statistically significant association between utilization of ANC services and place of delivery in Gindiri.

**CONCLUSION:** Although a high practice of ANC utilization was observed in this study, hospital delivery among the mothers is abysmally poor. Intensive health education in ANC clinics, is required to change these practice.

**KEY WORDS:** Antenatal care services, Utilization, preferred place of delivery, Index pregnancy.

#### INTRODUCTION

Antenatal Care (ANC) for all pregnancies and skilled care during childbirth are among key efforts that are crucial to promoting the safe motherhood, a reproductive health strategy aimed at reducing the unacceptably high maternal morbidity and mortality in developing countries.<sup>1,2</sup> The proportion of pregnant care<sup>3</sup>. Yet it is during labour, delivery and the immediate postpartum period that complications are most likely to arise and that care is most needed. It is imperative to note however that almost half of all postpartum deaths take place within one day of delivery, and 70% within the first week<sup>3</sup>. In developed countries 97 % of women make at least one antenatal visit. 99% deliver with a skilled attendant; and 90% make at least one postpartum care visit, The situation is different in the

developing countries where 65% of women make at least one antenatal visit and 53% give birth with a skilled attendant. But, only 30% make at least one postpartum care visit, with rates as low as 5% in some regions<sup>3</sup>. In Nigeria however, only 60% of women receive ANC and approximately 31% of all deliveries take place in a health facility, more over only 1/3 of all deliveries are attended to by skilled attendants.<sup>4</sup> Past studies in Nigeria and elsewhere have reported that distance, cost, poverty, lack of decision making, lack of service and poor quality of care constitute important barriers to effective use of health services in general<sup>5-8</sup>. This study however looks at the trend of ANC utilization and place of delivery, in addition to the influence of other pertinent personal factors on the use of ANC services as well as on their choice of place of delivery in CHC Gindiri.

## MATERIALS AND METHOD

**Study area:** The study was carried out in a comprehensive health center established by the Jos University Teaching Hospital, which is located in Gindiri, a district in Mangu LGA. Among the 58 health facilities in the LGA, the center is 2<sup>nd</sup> on the ranking list only next to the General Hospital aimed by the Plateau State government. It serves as a practice center for resident doctors of the department of community health and that of General Medical Practice in JUTH. The community health physician in training however, serves as the medical superintendent in-charge. He/she is saddled with the responsibility of over-seeing the activities of the other staff in the center in addition to patient consultation. Patients either come directly or are being referred from the nearby PHC and private clinics in the community and its environs. Beyond PHC services rendered at the center, admissions and surgical operations are carried out. Cases that can not be handled are referred to JUTH for further management. The Gindiri district is a typical rural setting with a population of 3700 comprising of both Christians and muslims. The major ethnic group is pyem, with Berom, Hausa and Ibo in the minority. Farming and trading are the major source of their livelihood; some of the farm produce include maize, millet, cocoa, yam, acha, beans and vegetables. The community has poorly maintained access road, fairly modern houses, and erratic electric power supply with inadequacies in water supply and sanitation

**Study design:** A cross-sectional design was used to study utilization of ANC services among pregnant women and their preferred place of delivery.

**Study population:** The study population consisted of all the pregnant women who attended the ANC clinic of CHC Gindiri between the period January 2002 and had delivered by December 2002.

**Sample size:** All the 676 mothers who fulfilled the above mentioned criteria were considered for the study.

**Data collection technique:** Antenatal records of mothers who attended the Antenatal Clinic (ANC) of Jos University Teaching Hospital-Comprehensive Health Center (JUTH CHC), Gindiri between the stipulated period for the study and had satisfied the criteria for selection were reviewed. Essential information on respondents' age, literacy, occupation, parity, number of living children, gestational age at

booking, number of ANC visits during index pregnancy and place of delivery for index pregnancy were sought and extracted. All the mothers whose records were reviewed were then traced during their subsequent visits in the health centre and interviewed to determine their place of delivery for the index pregnancy and their reasons for choice of place of the delivery. Those of them who did not present at the health center were traced and reached in the community using their residential addresses and were also interviewed. Overall, Records of 676 subjects were compiled.

**Data analysis:** All data generated were collated and analyzed using the Epi in for 2000 computer software. Chi-square test was used to determine the relationship between observed variables. A confidence interval of 95% was used and a p-value of <0.05 was considered significant.

## RESULTS

The median age of the mothers attending ANC in the Health centre was 25.3+-5.92years. Almost half of the mothers examined were literate, and as much as 80.70% of them had parity of < 4. However, up to 19.6% of them were unemployed (Table). Most of the mothers (92.0%) booked for antenatal care for the index pregnancy between the second and the third trimester of pregnancy. The median gestational age (G.A) at booking in this community however was 24.9 weeks. Up to 62.4% of the subjects had a fair attendance for ANC, with about 1-4 ANC visits during the index pregnancy. Of the 576 mothers whose place of delivery was determined, as much as 72.2% of them had a home delivery for the index pregnancy. However, about half (51%) of the mothers have had home deliveries only in all their deliveries, and up to 111 (19.3%) of them had hospital deliveries only, whereas the remaining 171 (29.7%) had both home and hospital deliveries in their lives. Out of the 35 mothers who had a very good utilization of ANC services, 60.0% of them delivered in the health facility, whereas of the 420 others who had a fair utilization of ANC services, only 33.1% of them delivered at the health facility. Table 2 shows the influence of personal factors of the mothers utilization of ANC service as well as their choice of place of delivery. Mothers' educational status, age, parity and occupation were found to significantly influenced mothers' utilization of ANC services. However; only mothers' age and educational status were statistically found to significantly influence mothers' choice of place

of delivery in this study. The mothers' reasons for choice of delivery are as depicted in table3. Half (50.2%) of those mothers who delivered at home gave no reason for their conduct while 73.50% of those who delivered in the health facility did so

for safety. This study observed a statistically significant association ( $\chi^2=16.99, df=2, p,0.05$ ) between utilization of ANC services and place of delivery (Table4).

**TABLE 1: Socio-demographic characteristics of respondents**

Factor	Frequency	%	Median
Age (yrs)			25.3
<15	7	1.0	
16-20	179	26.5	
21-25	176	26.0	
26-30	198	29.3	
31-35	80	11.8	
36-40	35	5.2	
41-45	1	0.1	
Literacy level	676	100.0	
Literate	330	48.9	
Illiterate	345	51.1	
	675	100.0	
Occupation	51	7.5	
Civil servant	13	1.9	
Self employed	612	90.6	
Unemployed	676	100.0	
Parity	544	80.7	3.0
4	130	19.3	
4	674	100.0	
No. of living children			2.7
0-4	1185	93.1	
5-9	88	6.9	
	1273	100.0	
Gest age at booking (wks)			24.9
1 <sup>st</sup> trimester(12)	53	8.0	
2 <sup>nd</sup> trimester(13-24)	282	42.3	
3 <sup>rd</sup> trimester(24)	331	49.7	
	666	100.0	
No. of ANC visits			4.2
1-4 (fair)	420	62.4	
5-8 (good)	217	32.2	
9-12 (v.good)	36	5.4	
	673	100.0	
Place of delivery			
Hospital	160	27.8	
Home	416	72.2	
	576	100.0	

**TABLE 2: Factors that influence ANC utilization and place of delivery**

Parameter	Factor	X2	df	p-value	Significance
ANC utilization	Education	21.23	2	0.05	S
	Occupation	6.62	2	0.05	S
	Age	2.64	2	0.05	S
	Parity	12.21	2	0.05	S
	No. of living children	0.01	1	0.05	NS
Place of delivery	Educational status	4.62	1	0.05	S
	Age	8.59	1	0.05	S
	No. of living children	16.11	1	0.05	NS
	Occupatio	2.35	2	0.05	NS
	Parity	0.36	1	0.05	NS

S= Significant,

NS= Not significant.

**TABLE 3: Respondents' Reasons for choice of place of delivery**

Place of Delivery	Reason	Frequency	%
Home	Lack of transportation	15	3.6
	More convinient	119	28.4
	Alone at home	30	7.0
	Carelessness	209	50.2
	Elders' preference	45	10.8
		146	100.0
	Health Centre		
	*Safety	125	73.5
	*Good attitude of health staff	11	6.5
	Proximity to residence	5	2.9
	Formality following ANC	9	5.3
	Adviced by relatives/ friends	3	1.8
	Pregnancy/delivery complications		
		170	100.0
Multiple responses			

**TABLE 4: Relationship between ANC utilization and place of delivery**

ANC utilization	Place of delivery		Total
	Hospital	Home	
Fair	139	281	420
Good	100	118	218
V.Good	21	14	35
Total	260	413	673
	X2 = 16.99	df = 2	p 0.0

## DISSCUSSION

The pattern of utilization of antenatal care services in this community is considerably fair. Most of these mothers (92.0%) book for antenatal care by the end of the second trimester of pregnancy, and up to 64.2% of the expectant mothers made an average of four (4) antenatal care visits during pregnancy. This level of performance is much higher than what was reported for National Demographic and Health Survey, 9 an indication that mothers who use antenatal clinics are aware of the importance of regular clinic attendance. Although a high practice of ANC utilization was observed, hospital delivery among these mothers is abysmally poor. Up to 72% of the mothers examined delivered at home after the antenatal care following their last confinement. This percentage is much higher than what was reported in past studies in Nigeria and elsewhere (9-11) The reason for the observed difference might probably be due to the fact that the importance and need for hospital delivery is most likely not clearly spelled out or emphasized to the mothers in the ANC clinics in the study area. This is further supported by the evidently high inconsistency in place of delivery among the mothers examined regarding the place of delivery in their past pregnancies. A significant proportion of these mothers (29.7%) had undergone both hospital and home deliveries in their past pregnancies, while about half (51.0%) of them delivered at home in all their pregnancies. The implication here is that mothers who are inconsistent in the use of antenatal and delivery services are less likely to utilize family planning and other post-natal services being provided in the health centres. They are also more likely to have partially immunized children, thus perpetuating the vicious cycle of maternal and infant morbidity and mortality in the community and Nigeria at large. Intensive and/or a more effective health education regarding place of delivery should therefore be considered imperative in the ANC clinics, particularly during first visit. About half of the mothers (50.2%) who delivered at home during their last pregnancies had no reason for their choice of home delivery. Another 28% of these mothers found it more convenient to deliver at home than in the hospital. It is important to note however that all the reasons given by the mothers for home delivery can effectively be dispelled with proper health education. In this community, educational status of the women was found to

have significantly influenced their ANC attendance as well as their choice of place of delivery. Literate mothers are more likely to make good use of the ANC services than the illiterate mothers. They are also more likely to make use of the hospitals for delivery. This is because education is a direct determinant of behaviour and indirectly as it affects cultural practices and gender relations. Exposure to knowledge also melts away misconceptions that may act as barrier to effective use of health services. Similarly, age was observed to significantly influence both ANC attendance and choice of place of delivery among the study subjects. Occupation is another factor that affects ANC attendance in this community where up to 90.6% of the mothers are not employed. This is indicative of the fact that women who are employed may be too busy to effectively make use of ANC services. However occupation had no any significant influence on the mothers' choice of place of delivery in this community. Parity of the mother also influences the ANC attendance. This may be because, with increasing parity, mothers are more likely to get more bored and loose interest or get more confident and self sufficient on going through pregnancy on their own, at a stage when they unknowingly become more vulnerable due to higher risks. In this study, ANC attendance and respondents' place of delivery were found to be significantly associated. Up to 60% of those mothers who had very good attendance at ANC delivered in the hospital whereas only 33.1% of those who had only a fair attendance at the ANC clinics delivered in the hospitals.

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