

# ASSESSING FACTORS INFLUENCING THE 4 TIMES ANTE NATAL ATTENDENCIES AT TORORO HOSPITAL, UGANDA

A Case Study by Dr Buyinza Godfrey Kagawa, Uganda

(M.B.B.S., Masters in Public Health Student of Texila American University)

*Email:- godfreykgw39@gmail.com*

## ABSTRACT

**Background:** Tororo district hospital has been offering goal oriented ante natal care services in line with ministry of health strategy for improving on maternal and child health, however 4 time ante natal visits have been low since its implementation as it stands at 9.9% (Tororo, 2005/6) The aim of the focused ANC attendances was to offer optimum care to the mother during any one ANC visit. The 4 times ANC visits being low (9.9%) implied that there are factors hindering mothers from attending ante natal care services hence the need to study and document these factors. The study was conducted to identify factors hindering 4 time ANC attendances.

## KEYWORDS

Ante natal care services, Maternal, child health, Attendancies, Pregnancy, Tororo district hospital.

## INTRODUCTION

Antenatal care is defined as a planned programme of medical management of pregnant women directed towards making programmes and labour safe and satisfying experience while goal oriented focused antenatal care in an approach that emphasizes evidence based, goal oriented actions, individualized women centre care, quality verses quantity of visits and care by skilled provides (MoH, 2006). It ensures provision of adequate care to pregnant women from the time, pregnancy is diagnosed up to the time, the couple is prepared and ready for a safe delivery of a live baby. A well programmed Ante natal and good obstetric care practices help prevent complications of pregnancy and child birth and generally improves the maternal and child health outcomes; Pradhan, *et al* 2013. Globally approximately 536,000 mothers die from complications related to pregnancy and child birth, with over 99% of which occur in Africa and Asia; Wanjira, *et al*, 2011.

Increase of in ante natal attendancies and delivery practices of pregnant mothers under the care of skilled personnel, that is in health facilities reduces maternal mortality and contributes to the achievement of millennium development goals number 4 and 5 Wanjira, *et al*, 2011.

The basic service offered during antenatal are:- information, education and communication on risk factors and warning signs and symptoms during pregnancy, prevention and management of anemia, iron and folic acid supplementation, screening of hypertensive disorders and diabetes mellitus. Evaluating of the pregnancy through medical examination, detection and referral of mothers with high risk pregnancies for further management, tetanus immunization, syphilis screening and treatment. HIV counseling and testing is as well done during the Ante Natal visits, prevention and management of malaria, prevention of mother to child transmission of HIV (use of ARVS and improved obstetric care) and infant feeding counseling.

A minimum number of four antenatal visits are recommended in Uganda, the first one at 0 - 16 wks (early in first trimester and normally after two missed periods), second visit, at 16>28 weeks, third visit at 28>36 wks and fourth after 36 weeks of gestation. The concept of focused or goal oriented ante natal care aims at achieving a specific goal in health promotion and pregnancy management which will be emphasized at all service delivery points providing maternity care services and these ante natal services would be provided on daily basis at all levels of the reproductive health service delivery. The goal oriented ante natal care strategy, if implemented nationally goes a long way in contributing to the reduction of morbidity and mortality associated with pregnancy and child birth (MOH, 2006).

In an effort to improve on the maternal and child health through improved ante natal attendances, the ministry of health initiated the promotion of the focused/ goal oriented Ante natal care which focuses on limited ante natal visits (4 times per pregnancy) but ensures provision of quality adequate care to pregnant women from the time pregnancy is diagnosed up to the time of delivery. However, utilization of this focused Ante natal care is still low and stands at 46% nationally (MOH, 2012).

In Tororo district, in particular at the general hospital, the 4 times antenatal attendances are still very low that is to say in the calendar year 2012, of the 4,619 total ante natal attendances, only 456 were 4 times attendances (9.9%) and this is closely associated with the high maternal mortality of 435 per 100,000 live births (MOH, 2006), because mothers are not able to visit the hospital, meaning that they deliver under the care of unskilled traditional birth attendants.

.The factors underlying this low 4 times ante natal attendances per pregnancy have not been studied nor documented in Tororo hence the need for the study.

## **STATEMENT OF A PROBLEM**

Tororo general hospital has been offering antenatal services to all pregnant mothers. Since its inception as a strategy of contributing to the reduction of the high maternal mortality rate and efforts directed towards making pregnancy and labour a safe and satisfying experience. Pregnant mothers have been attending antenatal services, however those who attend or come for at least 4 times has been very low, e.g. in the calendar year 2006 out of the 4,619 who attended antenatal services, only 456 (9.9) attended ANC for at least 4 times.

The gap was the low 4 times goal oriented or focused ante natal visits during pregnancy. Ante natal care services go a long way in reducing maternal and child morbidity and mortality (MoH, 2006).

The study identified the reasons behind the low 4 times visits, generated new ideas that would be used to design new or strengthen the existing information, education communication strategy for promoting, strengthening and increasing utilization of ante natal care services at Tororo hospital, district and country at large.

## **STUDY JUSTIFICATION**

The four times antenatal visits during pregnancy have been low despite the continued education and communication to the expectant mothers at various for a including; antenatal clinic health education sessions, local mass media (radio stations), to stake holders at various functions all aimed at improving antenatal attendancies thereby reducing on the morbidity and mortality associated with pregnancy. In the calendar year 2012, out of 4619 antenatal visits made at Tororo general hospital, only 456 expectant mothers (9.9%) were able to pay 4 times antenatal visits to the hospital.

This low 4 times goal oriented or focused ante natal visits was neither studied nor documented at Tororo general hospital/ district and this justified the study.

The study documented the low 4 times antenatal visits during pregnancy, identified the underlying factors influencing 4 times goal oriented or focused ante natal visits and generated new ideas on how to improve on the uptake of antenatal services to be able to design or strengthen the existing information, education and communication strategy for promoting, strengthening and improving and increasing uptake of antenatal services.

## **STUDY HYPOTHESIS**

Lack of education among the pregnant mothers is associated with either no or low antenatal visits during pregnancy.

## **OBJECTIVES**

### *GENERAL OBJECTIVE*

To identify the factors influencing the 4 times antenatal visits by pregnant Mothers so as to design new or strengthen appropriate intervention programmes to improve on the 4 times antenatal visits.

### *SPECIFIC OBJECTIVES*

1. To determine the general knowledge of antenatal services among the pregnant women of Tororo hospital.
2. To identify service delivery factors influencing the low 4 times antenatal visits during pregnancy.
3. To identify community factors influencing the low 4 times antenatal visits during pregnancy.

## **METHODOLOGY**

### *THE STUDY AREA*

The three counties of West Budama, Tororo County and Tororo Municipality which constitute Tororo district and the southern border areas of Mbale and Busia Districts whose community attend Ante Natal clinic services at Tororo general hospital. The study was hospital/clinic based.

### *STUDY POPULATION*

The study population was women of child bearing age 15-49 years, who were pregnant, residents of Tororo and neighbouring districts who attend Ante Natal clinic services at Tororo Hospital.

### *STUDY UNITS*

The study subjects were consented pregnant mothers, who had been counseled and educated on comprehensive ANC package, and were enrolled in Ante Natal Care programme at Tororo general Hospital.

## *INCLUSION AND EXCLUSION CRITERIA*

### *INCLUSION CRITERIA*

Pregnant mothers of child bearing age 15-49 years who were attending or enrolled in Ante Natal clinic Care programme at Tororo General Hospital and had consented to participate in the study.

### *EXCLUSION CRITERIA*

1. Non consenting pregnant mothers attending or enrolled in Ante Natal Care programme at Tororo General Hospital.
2. Pregnant mothers, who do not attend Anta natal care services.
3. Pregnant mothers who were either be below 15years or above 49years of age.

## **STUDY DESIGN**

This was un-matched case-control study, with an exploratory descriptive component using quantitative data collection methods.

*CASE:* A Case was a pregnant woman of child bearing age 15-49 years who had attended Ante Natal Clinic services (ANC) for at least 4 times at Tororo hospital.

*CONTROL:* A Control was a pregnant woman of child bearing age 15-49 years, who had attended Ante Natal Clinic services (ANC) for at least less than 4 times at Tororo hospital.

## **SAMPLE SIZE**

The sample size was determined by using the simplified formular for un-matched case control study developed by J Schlesselman (1982), which stipulates that the number of subjects to be selected in a case –control study depends on the specifications of four values:

1. The relative frequency of exposure among controls in the target population,  $p_0$
2. A hypothesized relative risk ( determined by the Odds Ratio-OR) associated with exposure that would have sufficient biological or public health importance to warrant its detection,  $R$
3. The desired level of significance,  $\alpha$
4. The desired study power,  $1-\beta$

The ratio of cases to controls will be 1: 1 so the required sample size ( $n$ ) for each group ( $n$  for cases and  $n$  for the controls) will be calculated using the formula shown below:

$$\text{Sample size } n = 2pq (z\alpha + z\beta)^2 / (p_1 - p_0)^2$$

Where,

n = the number of cases

$$P_1 = p_0 R / \{1 + P_0 (R - 1)\}$$

$$P = 1/2 (p_1 + p_0)$$

$$q = 1 - p$$

$P_0$  = Estimated exposure rate (proportion exposed) among controls. The proportion of women with no education in eastern Uganda is 31.2% (proportion of control who have no education), with an Odds Ratio of OR = 2

Education has been used to calculate the sample size because from the studies it shows that it's a very important factor that influences utilization of maternal health services and health services in general (Modal, 1997). There fore

$$P_1 = 0.312 \times 2 / \{1 + 0.312(2 - 1)\} = 0.476,$$

$$P = 1/2 (0.476 + 0.314) = 0.394,$$

$$q = 1 - 0.394 = 0.606$$

$\alpha$  = the value corresponding to the desired level of significance, which is the probability of making type I error {claiming that exposure is associated with the disease (delivering in health facilities), when in fact is not}.

$\beta$  = the probability of making type II error {claiming that exposure is not associated with disease (delivering from health facilities) when in fact it is}.

$1 - \beta$  = the power of the study which is the probability of finding that the sample estimate of relative risk (odds ratio) differs significantly from unity.

$\alpha$ ,  $1 - \beta$  = values from the standard normal distribution corresponding to  $\alpha$  of 0.05 and  $\beta$  of 0.20, which is 1.96 and 0.84 respectively. Substituting in the above formula,

$$n = \text{Sample size for each group} = 140$$

The ratio of cases: controls were 1:1 therefore; the minimum number of respondents required will be 280 and the same number will be interviewed.

## STUDY VARIABLES

The dependent variable was attending Ante natal Care services at Tororo Hospital.

The independent variables or predictors suspected to be associated with Ante Natal Care attendance which were included are:-

- Age refers to the completed years
- Religion- refers to religious denomination of the woman
- Marital status – refers to having a partner or single or divorced or widowed
- Occupation - refers to the kind of work women were involved in
- Nature of marriage - refers to monogamous or polygamous
- Parity – refers to the number of children a woman has ever delivered.
- Level of education – refers to primary, secondary or tertiary
- Socio- cultural hindrances – refers to cultural or community barriers to attend Ante Natal Care services:
  - Involvement of partner in attending ANC services
  - To be regarded as a strong woman e.g. to deliver without attending ANC services.
- Knowledge of pregnant women on benefits of ANC services
- Accessibility to health facilities in terms of distance
- Source of Information on ANC services
- Poor attitude of health workers.
- Privacy at maternity.
- Waiting time
- Confidentiality
- Satisfaction with quality of care at ANC service units.

## **SAMPLING PROCEDURE**

Simple Random sampling technique was used. The sampling frame was pregnant mothers of child bearing age between 15 and 49years who attended ANC services at Tororo Hospital. Sampling was conducted on daily basis on mothers who attend ANC services. The total number of pregnant mothers attending a day's ANC clinic was obtained before the sampling procedure would be conducted. Numbers which corresponded to a day's total ANC attendance were written on small papers then folded and pooled. The small papers were labeled cases and controls. Then each pregnant mother would be asked to pick one piece of paper at random and open it. At the end of the exercise we had two sets of mothers, one group with papers labeled cases and the other labeled controls. Then all the mothers went through the inclusion and exclusion screening criteria, those who would qualified to be respondents were grouped as cases or controls depending on the criteria for the cases and controls above.

## **DATA COLLECTION**

Data was collected from pregnant mothers between the age of 15 and 49years enrolled in the study and this was by conducting ANC clinic exit interviews at Tororo general hospital. A Pre

tested questionnaire was administered and was composed of semi and structured questions. The principle investigator and research assistants who had similar understanding and meanings of the questionnaires administered the study questionnaire during clinic based exit interviews.

## **DATA MANAGEMENT AND ANALYSIS**

### *DATA MANAGEMENT*

Filled questionnaires were checked for completeness and consistency by the principle investigator, who was the data entrant. The data from questionnaires were coded, entered, cleaned and new variables were created where necessary using Epi Info 2002, Microsoft Excel and SPSS, 11.0- computer soft ware.

### *DATA ANALYSIS*

The collected data was compiled, collated, summarized and analyzed using Epi- Info, Microsoft Excel, and SPSS 11.0

Frequency distribution of the variables was run to describe the data and cross tabulations done to look for associations between variables. The strength of association between variables was determined on bi variate analysis using Odds Ratio and 95% confidence interval. Also a logical model was constructed to determine the best model of prediction of Ante natal attendances by running a binary logistic regression in SPSS. All the plausible factors that were associated with ANC service attendances were put in the model and backward Likelihood Ratio Method done. This was to help identify factors associated with ANC attendances while controlling for the confounding effect of other factors.

### *QUALITY CONTROL*

Research Assistants who had thorough knowledge of the local languages were used. They were trained for one day, general consensus on meaning of questions was reached, how best to ask questions; fill the questionnaire, good conduct and privacy. The questionnaire was be pre tested and adjustments made, thereafter before the real interviews. The interviews was conducted in a conducive environment and privacy of the respondents respected.

### *ETHICAL CONSIDERATIONS*

Permission to collect data was sought from the Medical superintendent Tororo hospital and the district health office.



Respondents' names were not used and selection and interview of the respondents was done with their written consent. Assurances were made to the respondents that the data collected was strictly confidential and was used for the purpose it is intended to.

#### *DISSEMINATION OF DATA*

Data dissemination will be done to Texila American University, Tororo General Hospital Authorities, Tororo District Health Office and all the stakeholders in Tororo District.

### **LIMITATIONS**

1. The participants may have been apprehensive on availing accurate information during data collection which cannot be verified, however by using an elaborate questionnaire the information obtained was complemented.
2. Recall bias among the respondents; the respondents may have over or under estimated the risk (factors influencing ANC service attendance) however this was eliminated by trying to select the same number of cases and controls; but this was not possible to get the required cases hence used one case for three controls. The number of cases were limited by the rarity of the risk and in this case it implied on the four times ANC attendances and in this circumstance, a statistical confidence was increased by taking more than one control per case.
3. There might have been a problem of confounding. There might have been other factors contributing to the occurrence of the risk or behavior which the case control did not take into consideration however this was eliminated by looking at whole data collected.
4. Selection bias of cases and controls especially after both out come and assumption of risk has occurred but this was eliminated by the clear definition and distinction between cases and controls.

### **RESULTS**

A total of Ninety five respondents were identified, selected and interviewed in a case control study to assess the factors associated with four times goal oriented Ante Natal Care service attendances at Tororo General Hospital. Twenty five of which were Cases and seventy were Controls.

#### *4.1 SOCIO- DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS.*

##### *4.1 TABLE SOCIO- DEMOGRAPHIC DATA OF RESPONDENTS*

Variable	Frequency		Percentage	
	Cases	Controls	Cases	Controls
<b>Age</b>				
15-19	6	13	24	18.6
20-24	7	24	28	34.3
25-29	8	13	32	18.6
30-34		13	12	18.6
35-39	3	5	4	7.1
40-44		2	-	2.9
44-49	1	-	-	-
<b>Religion</b>				
Catholic	-	48	40	68.6
Protestant		13	36	18.6
Moslem	-	2	8	2.9
Pentecostal		7	12	10.0
SDA		-	4.0	-
<b>Tribe</b>				
Adhola	10	19	28	27.1
Itesot		28	28	40.1
Nyole	9	-	4.0	32.0
Others		23	40	-
<b>Level of Education</b>	2			
None		8	4.0	11.4
Primary	3	26	52.0	37.1
Secondary		29	40.0	41.4
Tertiary	1	7	4.0	10.0
<b>Occupation</b>				
Business woman		9	16.0	12.9

Employed		11	16.0	15.7
Peasant	7	45	68.0	64.3
Student		2	-	2.9
<b>Marital Status</b>	7			
Divorced		-	4.0	-
Married	1	68	80.0	97.1
Single		2	20	2.9
	10			

The majority of respondents among the controls were between 20-24 years, while for the cases were between 30-35 years. In addition, the majority of the respondents were Catholics in both groups that is 40 % cases, (10/25) and 68% for controls (48/70). The level of Education was varied, the majority in the Cases attained Primary Education; 52% (13/25) while for the Controls; 41.4% (29/70) attained secondary education. In both groups the majority were peasants; cases 68.0% (17/25) and Controls 64.3%, (45/70). In addition, 32% of the Cases had a source of earning while for the Controls it was only 28.6% who had a source of earning. Furthermore, most of the respondents in both groups were married and were in a monogamous relationship.

*PREGNANCIES ONE HAS EVER CARRIED*

**TABLE 4.2: PREGNANCIES ONE HAS EVER CARRIED.**

Variable	Frequency		Percentage (%)	
	Cases	Controls	Cases	Controls
Number of Pregnancies				
Five	7	5	33	9.1
Four	4	9	19.0	16.4
Three	3	12	14.3	16.4
Two	3	7	23.8	23.6
One	5	9		
Over Five		13	2.0	
Others (Prime paras)	2	15	5.0	12.7

The majority of the respondents among the cases had carried at least five pregnancies (33%), and only 9.1% among the controls. Most of the respondents reported to have at least delivered three live children 22.2% (controls) as well as for the cases 31.6% (6/25). All the respondents had an average of two living children i.e. controls (14/44) 31.8% and cases had an average of three living children 37.5% (6/16).

**Table 4.3 Antenatal Attendances on Previous Pregnancy**

Variable	Frequency		Percentage (%)	
	Cases(18)	Controls(44)	Cases (%)	Controls (%)
Five times	2	5	11.1	11.1
Four times	9	15	50.0	33.3
Over Five times	-	5	-	11.1
Three times	6	19		42.2
Once	1	1	33.3	2.2

Among the cases, 50% had attended ANC services four times during the previous pregnancy, while for the controls only 42% (19/45) had attended ANC for at least thrice. On the other hand, 92% of the cases (23/25) had ever received information on ANC services, while for the controls 69/70 had as well ever received information on ANC services.

TABLE 4.4 SOURCES OF INFORMATION ON ANC SERVICE

Variable	Frequency (n=76)		Percentage (%)	
	Cases	Controls	Cases	Controls
Friends	10	29	41.7	42.0
Health Workers	10	29	41.7	42.0
Others	-	1	-	2.9
Radios	4	8	16.7	11.6

Almost all the respondents had ever received information on ANC from either friends or health workers and to a lesser extent from relatives which was recorded as others.

Among the cases, 92% (23/25) knew the ANC service offering sites, while for controls (69/70) 98.6 knew all the ANC service sites.

All the respondents in the case group had ever attended ANC service for the current pregnancy (25/25) 100% and satisfied with ANC in general.

*SATISFACTION WITH QUALITY OF ANC SERVICE*

The respondents were asked about satisfaction of ANC services offered.

TABLE 4.5 SHOWING LEVELS OF SATISFACTION

Variable	Frequency		Percentage (%)	
	Cases (25)	Controls (70)	Cases (%)	Controls (%)
Attitude of Health Workers	18	50	72	71.4
Confidentiality	6	10	24	14.3
Privacy	1	10	4	14.3

The almost all the respondents were satisfied with the attitude of health workers.

*WAITING TIME*

The respondents were asked to estimate time spent at ANC services.

*TABLE 4.6: SHOWING TIME SPENT AT ANC CLINIC*

Variable	Frequency		Percentage (%)	
	Cases (25)	Controls(70)	Cases	Controls
1 hour	10	28	40	40
1 hour 30 minutes	3	6	12	8.6
2 hours	2	9	8.0	12.9
30 minutes	7	15	28.0	21.4
Over 3 hours	3	12	12.0	17.1

The most of respondents reported that one hour is the ideal time spent at an ANC Clinic.

On distance, almost all the respondents were within 5 kilometers to health facility; cases 68% (17/25), controls 77.1% (54/70).

*TABLE 4.7 FACTORS HINDERING FOUR TIMES ANC ATTENDANCES*

Variable	Frequency		Percentage (%)	
	Cases(25)	Controls (70)	Cases	Controls
Distance	17	54	68.0	77.1
Poverty	5	10	20	14.3
Attitude of Health Workers	3	6	12	8.6

*ODDS RATIO AND P- VALUE*

In a way of demonstrating statistical significance of associations, two by two tables were constructed and Odds ratio, confidential interval and P valve calculated.

*TABLE 4.8 DISTANCE TO AND FROM THE HEALTH FACILITY*

<b>Distance(km)</b>	<b>Cases</b>	<b>Controls</b>
Less than 5km	17	54
More than 5 km	8	16

Odds ratio was 0.63 (0.229-1.73).

This means that the chances of the cases being 5km to Health facility is 0.63 times less likely compared to the controls. In addition the confidence interval is between 0.229-1.726 crossing the 1.0 mark implying that the association is not statistically significant.

In the some regard the p-value was 0.365 which is more than 0.05. though the cases have 0.63 higher chances of being with in 5 km to the health facility, this may have occurred by chance.

*EDUCATION LEVEL*

When looking at education level, assuming the level is divided into primary and less as variable and then above primary to establish the association.

*TABLE 4.9 EDUCATION LEVEL*

<b>Exposure risk of education</b>	<b>Cases</b>	<b>Controls</b>
Primary and less	14	34
More than primary	11	36

Odds ratio is 1.35 (0.538- 3.376); p-value is 0.522.

The respondents who were cases were 1.35 times more likely of having attained primary level of education and below than the controls. This may be as result of chance.

The confidence interval crosses the 1.0 mark hence meaning the association is not statistically significant. P-value is more than 0.05 mark.

*TABLE 4.10 FACTORS HINDERING ANC ATTENDANCES*

<b>Hindering factors</b>	<b>Cases</b>	<b>Controls</b>
Yes	4	8
No	20	61

Odds ratio 1.525(0.415-5.608) p-value =0.523

The respondents who were cases are 1.525 times more likely to say there are factors hindering ANC attendances as compared to controls. Though the chance of occurrence appears to be possible but when you look at the confidential interval, it crosses the 1.0 mark and as well the p-value is more than 0.05 hence the relationship is not statistically significant.

*TABLE 4.11 WAITING TIME AT ANC ATTENDANCES*

<b>Waiting Time</b>	<b>Cases</b>	<b>Controls</b>
Less than 2 hrs	20	49
More than 2 hrs	5	21

Odds ratio 1.714 (0.568 - 5.178) p-value =0.335

The respondents who were cases were 1.71 times more likely to spend spending less than 2hrs at ANC as compared to controls. Though the chance of occurrence appears to be possible but when you look at the confidential interval, it crosses the 1.0 mark and as well the p-value is more than 0.05 hence the relationship is not statistically significant. This means that if it occurs it is due to chance.



## DISCUSSION

Tororo General has been offering goal oriented antenatal care service since 2005. The goal oriented Antenatal care aims at focused Antenatal care attendances. This is because pregnant mothers hardly make the required four times antenatal care visits. Four times antenatal care visits have been low however general new antenatal attendances are high at rate of 96% (Tororo 2005). The four times antenatal care attendance is at 9.9% of all antenatal care visits. Implying that there are factors hindering the mothers to make the four times visits but this had not been studied or documented. The study was conducted to identify the factors hindering mothers from making the four times focused antenatal visits. Ninety five respondents were identified, selected, and interviewed in a case control study. The majority of the control respondents were between 24-29 years (41.4%), of secondary education while for the cases, the majority had primary education (52%). In 1997, Morgan was able to demonstrate a close association between level of education and utilization of maternal and health services in general, however in my study, there was no association between education and level of education OR 1.348 ( 0.538 – 3.376) and the p value was 0.523. This may be because my questionnaire was not properly formulated to fit in the case control study format as this made the data analysis difficult because the Epi Info used made analysis on only one variable hence resorted to manual computer calculations of Odds Ratio and p value after merging some of the variable to be able to remain with two categories.

In my study I was able to note that indeed increasing age (in cases) was associated with increasing chance of ante natal attendance but this is not the case when you check for the confidential interval and the p –value. In my study there was not significant increase in the number of ante natal attendances however, Kathryn S *et al* in 2007 in his research study on sustainable ante natal care service in an urban indigenous community, the Townsville experience, he was able to confirm increasing ante natal attendances with age. Likewise, R Nydomugyenyi *et al* in 1998 was able to document increasing parity influencing ante natal care attendances, though religion and education did not have any effect. In my study it appears by eye balling, that increasing parity increases ante natal attendance but this is due to chance other than real significance.

In the British Medical Journal, volume 284 1982 it was demonstrated that ante natal attendances was associated with reduction in peri natal mortality as the socio risk groups are identified early and offered treatment or referred. In another study by Williams on factors affecting ante natal care attendances by mothers of Pacific Infants living in New Zealand, maternal factors associated with late initiation of ante natal attendances were high parity, first pregnancy, not being employed prior to pregnancy, and reaction to pregnancy. In my study a number of factors were mentioned for example: - Poverty, distance to health facility and the attitude of health workers but when analysis was done and comparison made, these were all statistically not significant but may be clinically significant factors that influence 4 times ante natal attendances.

## CONCLUSION

Goal oriented Ante natal attendances in Uganda goes a long way in improving peri natal mortality and morbidity however, this was documented in other studies conducted elsewhere in the world, however for my study, I was not able to significantly prove that the mentioned factor associated with low Ante natal attendances which included; increasing parity, long distance to health facility, attitude of health workers are and the busy schedule at home for these pregnant mothers were responsible for the low four times ante natal visits. In addition these factors do affect the general utilization of health services though I was not able to deduce any tangible conclusion on the hypothesis that low level of education is responsible for the low four times goal oriented ante natal attendances.

## RECOMMENDATION

- There is need to further explore this area to actually document the factors responsible for the low four times ante natal attendances in Uganda possibly in a rural setting.
- There is need to continue with Information, Education and Communication on safe motherhood as away of promoting ANC utilization.
- There is need to emphasis goal oriented or focused Ante natal attendances even in the training institution for health workers.
- There is need to improve on poverty levels of the women and to empower them make decisions for the betterment of their health.

## REFERENCES

1. Birgitte, B., et.al., 2001. "Characteristics of Ante Natal Care attendances in rural population in Tamil Nadu, South India: A Community based Cross Sectional survey 2001". *Lancet (London, England)* 2010, 375:2032.
2. Bhutta Z, A., Chopra, M., Axelson, H., Berman, P., Boerma, T., Bryce, J., Bustreo, F., Cavagnero, E., Cometto, G., & Daelmans, B., "Countdown to 2015 decade report (2000–10): taking stock of maternal, newborn, and child survival".
3. Hogan, M, C., Foreman. K.,J, Naghavi, M., Ahn, S,Y., Wang, M., Makela, S,M., Lopez, A,D., Lozano, R., & Murray, C,J.," Maternal mortality for 181 countries, 1980–2008: a systematic analysis of progress towards Millennium Development Goal 5". *Lancet* 2010, 375:1609-1623.
4. Jimoh, A,G., (2003). "Utilization of Ante Natal Care Services at Provincial Hospital, Equatorial Guinea". *African Journal of Reproductive health*, Vol 7 No.3 December 2003 pp 49-54.

5. *Journal of Public Health*, 2003, "Is early Ante natal attendances so important?" 25: 113-119 accessed on 30/07/2007
6. Kathryn, S., & Panaretto, et,al., 2005."Sustainable Ante natal care services in an urban indigeneous community; the Townsville experience".
7. Ministry of Health, 2006. *The National Policy Guidelines and Service Standards for Sexual and Reproductive Health and Rights, Third Edition* 2006 pp 38-47.
8. Nydomugenyi, R., et,al.,(1998). Research Report." The use of Formal and informal services for Ante natal care and malaria 1998", Volume 13, pp 94-102 accessed on 30/07/2007 at <http://heapol.oxfordjournals.org/cgi/content/Abstract/13/94>.
9. Pearsons,J, F., (1982). " Is an early ANC attendance so important?" *British Medical Journal* 1982, volume 284 pp 1410-1411, 1064-1065.
10. United Nations: *The millennium development goals report*. New York: United Nations; 2012.