A COMMUNITY SURVEY TO EVALUATE THE LEVEL OF UTILIZATION OF ANTENATAL AND DELIVERY SERVICES IN TESO DISTRICT, KENYA.

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DECLARATION

This dissertation is my original work and has not been presented for a degree award in any other University.

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List of abbreviations and acronyms

ANC	Antenatal care
EmONC	Emergency Obstetrics and Newborn Care
HIV	Human immunodeficiency virus
ICPD	International conference on population and development
IMPAC	Intergraded Management of Pregnancy and Childbirth
KDHS	Kenya democratic and health survey
MCH	Maternal child health
MDG	Millennium development goals
MMR	Maternal mortality ratio
MOWMS	Midwifes and others with midwifery skills
TBA	Traditional Birth Attendant
UNFPA	United nation population fund
UNICEF	United Nations Children's Fund
W.H.O	World health organization

ABSTRACT

Background: Skilled delivery and antenatal services utilization are essential for the improvement of maternal and child health. However in rural Kenya settings and the country as a whole, utilization of this health service remains low even with the provision of the service by the government. KDHS 2008/9 shows that only 25.8% of pregnant women in western province are being delivered by a skilled attendant, which is very low compared to the poor national figures of 44%. The aim of this study is to determine the pattern of use of antenatal and delivery services and to assess factors that lead to low utilization of this service among women aged between 15-49 years and whose children were one year old in Teso District. The findings of this study will help health planners, policy makers and program managers develop service delivery strategies that are responsive to the health needs of expectant mothers in Teso district.

Research Objective: The broad objective was to determine the pattern of utilization of maternal health care services and identify factors that either enhance or constrain it's utilization in Teso district.

Study Setting. The study took place in Alomodoi Sub- location in Teso district, Western province.

Study Design. A community based cross-section survey.

Sample Size. A total of 296 women aged between 15-49 years whose children were less than one year were interviewed.

Methodology: A community based cross-sectional survey of 296 women aged between 15- 49 years whose children were less than one year was carried out at Alomodoi Sub-location, Teso

District between 1st July 2013 and 21st September 2013. Data was collected with structured questionnaires using the snow-bowl and convenient sampling methods.

Results: Majority of the women received antenatal care (96.7%) during their last pregnancy. 68.6% of the women who received Antenatal care presented for their first visit in the second trimester. Only 35.5% women had four and more antenatal visits as recommended by the Ministry of Health Kenya and WHO. Despite high antenatal attendance very few women delivered in a health facility 31.4%. Majority of the deliveries occurred at home 61.5%. Of the women who delivered at home 124 (41.9%) were assisted by a traditional birth attendant while 7.1% gave birth on their own. The factors identified as predictors of utilization of maternal health services are family economic status, prior history of pregnancy with antenatal clinic attendance, maternal level of education, being married and women independence in decision making on place of delivery. The reasons given for home delivery include women experiencing short labor, high cost of health facility fee and high cost of transport. Women with a high level of educational, high level of income and with autonomy in decision making were more likely to use skilled delivery services ($p<0.05$).

Conclusion: Based on the study findings Coverage for antenatal services was high among mothers during their last pregnancy. However, only less than a half of the mothers interviewed utilized health facilities for delivery. Observed contributing factors for a home delivery included the fast progression of labor, high cost of transport, high cost of health facility fee and poverty.

Maternal education was an important factor in influencing women to utilize skilled delivery services, with education women are empowered in decision making.

High economic status was associated with utilization of skilled delivery services.

Recommendation: All health care providers should be encouraged to discuss a birth plan with women at the first contact in the antenatal clinic and should emphasize the importance of subsequent antenatal visits in the monitoring of pregnancy and encourage women to deliver at a health facility.

The government should ensure universal utilization of antenatal and delivery services care irrespective of their ability to pay.

Universal access to education should be encouraged for the girl child as it will help them make a more informed decisions concerning their health as well as raise their income level.

Development of community programs to sensitize mothers on the importance of initiating the first antenatal visit early enough and also on the frequency of visits for a maximum uptake of the care content.

A follow-up study needs to be done to determine the impact of free maternity health care in the utilization of antenatal and delivery services in Teso district or any other rural setting.

CHAPTER ONE

1.0 INTRODUCTION

Maternal mortality ratio is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.[1]

The global MMR in 2010 was 210 maternal deaths per 100 000 live births, down from 400 maternal deaths per 100 000 live births in 1990. The MMR in developing regions (240) is 15 times higher than that in developed regions. Sub-Saharan Africa had the highest MMR at 500 maternal deaths per 100 000 live births. Of the 40 countries with the world's highest rates of maternal death, 36 are in sub-Saharan Africa. From this statistics there is a clear relationship between poverty and unsafe pregnancy.[2]

WHO has summarized three crucial factors underlying maternal deaths, the first of these is lack of access and utilization of essential obstetric services. WHO estimates suggest that 88 to 98 percent of all pregnancy-related deaths are avoidable if all women would have access to effective reproductive health care services .[3, 4] Secondly low social status of women in developing countries can limit their access to economic resources and basic education which impacts on their limited ability to make decisions, including decisions related to their health and nutrition. Thirdly, too much physical work together with poor diet contributes to poor maternal health outcomes.

Strategies of reducing maternal mortality ratio have been operational for a long time. It began with the international conference on safe motherhood initiative held in 1987 and continued through millennium development goal of reducing maternal mortality by 75% by the year 2015.

The Safe Motherhood Initiative promotes antenatal care, and skilled assistance (defined as a midwife, nurse trained as midwife, or a doctor) during childbirth.[5]

With the achievement of MDG 5 which aims at reducing MMR by three quarters between 1990 and 2015, and achievement of universal access to reproductive health by 2015, the health status of women and the society as a whole will greatly improve. The only proven available ways of achieving MDG 5 is by use of antenatal and delivery services. Examples of countries that have made stride towards achieving MDG 5 are Malaysia, Egypt and Sri-lanka.[6]

Padmanathan et al. 2003, Reported that Sri Lanka which is a low-income country successfully reduced maternal mortality. Starting with a maternal mortality ratio of 1,056 maternal deaths per 100,000 live births in 1947, by 1996 it was experiencing just 24 maternal deaths per 100,000 live births. During the same period, the proportion of births with skilled birth attendants increased from 27 percent in 1940 to 89 percent in 1995.

The steps taken by Sri Lanka for the above achievement was, improvement of health infrastructure extending into rural areas to make health services more accessible. This included blood transfusion services and Services were provided free of charge, Large cadres of professional midwives were trained and deployed both at the health facilities and in communities to attend to home deliveries. Additionally, midwives visited pregnant women at home and encouraged them to seek antenatal care and assistance during delivery. Family planning was integrated into maternal and child health services and offered as part of the basic package of services. A strong referral system ensured timely access to basic and comprehensive emergency obstetric and newborn care (EmONC) when necessary, backed by the availability of ambulances and telephones.[7]

Models from countries that have achieved MDG5 shows that adequate antenatal care (ANC) and skilled delivery are an important strategy that significantly reduces maternal mortality and morbidity. ANC provides an avenue to provide pregnant women with information treat existing social and medical conditions and screen for risk factors. However it is not enough to receive ANC only, since majority of the fatal complications occur during or shortly after delivery.[8] It is therefore important that pregnant women have skilled obstetric attendance during delivery.

We as a country with a MMR of 488 per 100,000 have made slow progress towards achieving MDG5. The High maternal mortality ratios could probably be explained by poor utilization of skilled delivery in Kenya with only 43% of women giving birth in a health facility and only 44% of deliveries being assisted by a health professional.[9]

In many developing countries, the majority of births occur without the help of a skilled assistant at home or in other non-hospital settings. [10] Home deliveries in the absence of skilled professional attendants have been associated with adverse infant and maternal outcome. [11,12] However, home deliveries without a skilled attendant are chosen or occur for a variety of reasons, including long distances or difficult access to a birth facility, costs of services and perceived lack of quality of care in a health facility. [13] In an attempt to improve care during home deliveries and reduce maternal mortality, traditional birth attendants (TBAs) have been trained in modern delivery care, with varying reports of success. [14, 15] Presence of a professional attendant at each birth can lead to a marked reduction in maternal mortality and morbidity. [11, 12]; Professional health care during childbirth is one of the process indicators to assess progress towards the Millennium Development Goal of improving maternal health. [16]

We as a country need to assess the areas of weakness and come up with policies that will lead to a reduction in maternal mortality and morbidity thus making childbirth enjoyable again.

CHAPTER TWO

2.0 LITREATURE REVIEW

Across the world, women continue to die during pregnancy and childbirth**.** It is shameful that an experience so natural and vital can be a horrific adventure for the approximately 287,000 women who die in pregnancy or in childbirth across the world each year. [2] According to the World Health Organization, Sub-Saharan Africa (56%) and Southern Asia (29%) accounted for 85% of the global burden (245 000 maternal deaths) in 2010. The global MMR in 2010 was 210 maternal deaths per 100 000 live births, down from 400 maternal deaths per 100 000 live births in 1990. The MMR in developing regions (240) is 15 times higher than that in developed regions. Sub-Saharan Africa had the highest MMR at 500 maternal deaths per 100 000 live births. Of the 40 countries with the world's highest rates of maternal death, 36 are in sub-Saharan Africa. [2]

In Kenya despite the different strategies that have been put in place since 1972, KDHS 08/09 shows MMR at 488 per 100,000 live births (with some regions reporting MMRs of 1,000/100,000 live births). This is a slight increase from 414/100,000 in 2003. [9, 17] Based on WHO standards, our mortality as a country is still high as it falls above 300 per 100,000 live births.[2]

Strategies that have been in operation range from government initiatives to a government private sector partnerships and even international institution involvement. It began with the international conference on safe motherhood held in 1987 and continued through to the Millennium Development Goal of reducing maternal mortality to one half of the 1990 levels by the year 2000 and a further one-half reduction by 2015 or annual 5.5% decline of maternal mortality.[2]

Achieving the above objectives set internationally and locally has been a hard task and barriers to this range from socio economic to demographic factors.[18]

Some countries have already achieved the set target of reducing maternal mortality making this target realizable. The percentage reductions of maternal mortality for the 10 countries that have already achieved MDG 5 by 2010 are: Estonia (95%), Maldives (93%), Belarus (88%), Romania (84%), Bhutan (82%), Equatorial Guinea (81%), Islamic Republic of Iran (81%), Lithuania (78%), Nepal (78%) and Viet Nam (76%).[2]

Antenatal care has been shown to improve certain outcomes of pregnancy complications such as eclampsia, anemia and syphilis through early detection, management and timely referral of high risk pregnancies, though such care has not been shown to reduce the rates of maternal mortality. To fully benefit from the above actions and to improve on maternal and neonate outcome it is advised that women begin attending ANC early in pregnancy.[19]

WHO recommends that ANC should be started in the first trimester of pregnancy or early in the second trimester. If the pregnant woman has no serious health problem and does not need special attention, only four ANC visits suffice a decrease from 12 ANC visits, as had been previously recommended, as it is less costly and does not result to an increase in adverse maternal nor perinatal events.[20] The recommendations by the ministry of health, Kenya are that in a normal pregnancy four visits suffice but on women with problems extra visits are welcome. The four visits are 1st by 16 weeks, 2nd at 24-48weeks, 3rd at 32 weeks and 4th at 36 weeks; this is referred to as Focused antenatal care. [43]

It is evident that timely antenatal care is an opportunity to prevent the direct causes of maternal mortality and reduction of fetal and neonatal deaths related to obstetric complications.[19] Essex

and Everett 1977 cited by McDonagh, 1996 stated that 81% of risk factors in pregnancy can be identified in the antenatal period.[19] Coria-Soto et al, 1996, found that inadequate number of ANC visits was associated with 73% risk of having intra uterine growth retardation.[21]

It has been argued that some of the poor pregnancy outcomes and complications of high-risk women are as a result of lack of antenatal care. [20] Llewellyn-Jones, 1974 asserts that lack of antenatal care, rather than biological inefficiency may be responsible for complications such as pre-eclampsia, anemia and low birth weight among teenage and unmarried mothers.[22] However, there is no doubt that pregnancies of very young or older mothers have increased risks for both the mother and the baby.[23]

A range of factors have been attributed to the low utilization of ANC services. They range from socio-economic, cultural, demographic, service availability and accessibility characteristics. Oberymeyer and Potter; 1991, in their study of the use of maternal health services in Jordan, found that higher levels of education were associated with greater use of antenatal care.[24]

In another study of the determinants of maternal health care in India, the important role played by socio-economic factors on the use of maternal health services was confirmed where higher maternal education, income and higher personal hygiene were observed to be associated with significantly higher probability of routine antenatal check-up. Demographic factors were also observed to play an important role as mothers aged below 18 years were less likely to have routine antenatal check-up.[26]

Other factors that deter one from attending ANC are educational status of women, living in rural area, marital status and being in poorest wealth index and obstetric factors such as parity, outcome of previous pregnancy and whether the pregnancy is planned or not, characteristics of

the women and her family, characteristics of illness as well as characteristics of the health care system, including accessibility, acceptability, cost and quality of care provided.[22-25]

The desirability of a pregnancy is an important determinant of the use of maternal health services. Pregnancies which are mistimed or not wanted are associated with irregular and late antenatal care visits than pregnancies which are conceived at the time that a woman wanted the pregnancy. [26]

The Government of Kenya's March 2009 *National Road Map for Accelerating the Attainment of the MDGs Related to Maternal and Newborn Health in Kenya* and the *Child Survival and Development Strategy 2008* identified several barriers to utilization of maternal services ranging from socio-cultural to demographic factors including: lack of recognition of danger signs in pregnancy; poor accessibility and low utilization of skilled attendance during pregnancy, child birth and postpartum period; limited access to essential and emergency obstetric care due to limited health provider competence and inadequate staffing, equipment and supplies; socio-cultural barriers leading to delays in seeking care; and limited national commitment of resources for maternal and newborn health. [31]

Skilled attendance at all births is considered to be the most critical intervention for ensuring safe motherhood; it hastens the timely delivery of emergency obstetric and newborn care when life-threatening complications arise. Skilled attendance denotes not only the presence of midwives and others with midwifery skills (MOWMS) but also the enabling environment they need in order to perform capably. It also implies access to a more comprehensive level of obstetric care in case of complications requiring surgery or blood transfusions.[27]

Up to 15 per cent of all births are complicated by a potentially fatal condition. Many of these complications are unpredictable, almost all are treatable. Skilled attendants are trained to recognize problems early, when the situation can still be controlled, to intervene and manage the complication, or to stabilize the condition and refer the patient to a higher level of care, if needed. Skilled attendance is also vital in protecting the health of newborns: the majority of peri-natal deaths occur during labor and delivery or within the first 48 hours after delivery.[28]

Evidence from many countries, most notably China, Cuba, Egypt, Jordan, Malaysia, Sri Lanka, Thailand and Tunisia, indicate that skilled midwives functioning in or very close to the community can have a drastic impact on reduction of maternal and neonatal mortality. This is why the proportion of births attended by a skilled health provider is one of the indicators for measuring progress toward the fifth Millennium Development Goal.[2]

In developing countries, the majority of births occur without the help of a skilled assistant at home or in other non-hospital settings.[29] In Kenya 43% of deliveries occur in a health facility and 44% are assisted by a skilled attendant, this doesn't reflect the true picture of the whole country as Nyanza, western and coast province still have low figures of births attended to in hospital. Instead majority of births do occur at home under the care of traditional birth attendants.[9]

Home deliveries in the absence of skilled professional attendants have been associated with adverse infant and maternal outcome.[11] The place of delivery, if adequate facilities are provided effectively, has consistently been found to be associated with reduced maternal and neonatal mortality .[18]

An Effective delivery facility should meet the following conditions: first, delivery should be assisted by trained health workers who are able to identify the signs of complications and act appropriately when a problem occurs. Second, Referral facilities should be available to deal with obstetric emergencies once they have been identified, and on arrival at the referral facility patients should be observed promptly and appropriate decisions made to avoid further complications or even death, there needs to be a transport system to get women to the facility quickly in order for the service to be effective.[18]

Despite evidence showing that an effective delivery service leads to a reduction in maternal mortality we as a country haven't made strides towards achieving this goal.[9] The above problem may be due to different reasons, including long distances or difficult access to a birth facility, costs of services and perceived lack of quality of care in a health facility.[30]

Skilled birth attendants during labor, delivery and early post partum period could reduce an estimated 16 to 33 percent of deaths due to obstructed labor, hemorrhage, sepsis and eclampsia.[27]

In developing countries Traditional birth attendants (TBAs) continue to have a significant role in assisting in deliveries. In rural settings in Kenya especially Nyanza and western province there is a similar trend as shown from the KDHS, 2008 finding where 45% of women are delivered by TBAs as opposed to 25.8% who use skilled professionals. There hasn't been much change of the above trend in the last 5 years.[9, 17]

A vital contribution towards reducing maternal morbidity and mortality could be made if attendance at an antenatal clinic influenced women to select a trained birth attendant, thus the need for proper health education to women visiting ANC as almost 92% of pregnant women at least have one antenatal visits but only 25.8% are delivered by a skilled attendant.[9]

2.1 Justification

Although maternal health services have been provided in the country since 1960s, little is known about their utilization in Teso district. The 2008/09 Kenya demographic and health survey results show that a large number of births in western province (73%) in which Teso district falls took place at home and only 25.8% of women deliver in a health facility yet in about 92% of those births mothers had received antenatal care from a health personnel. The factors responsible for the current state of affairs are not well known. The lack of proper information on the factors that influence use of antenatal and delivery services in Teso district hampers effective planning and development of corrective interventions, hence the need for this study. The findings of this study will help health planners, policy makers and program managers develop service delivery strategies that are responsive to the health needs of expectant mothers in Teso district. Improvement of maternal health services utilization will contribute to the improvement of health status of women and children and reduce maternal morbidity and mortality thus making childbirth an enjoyable experience.

2.2 Schematic Conceptual Framework.

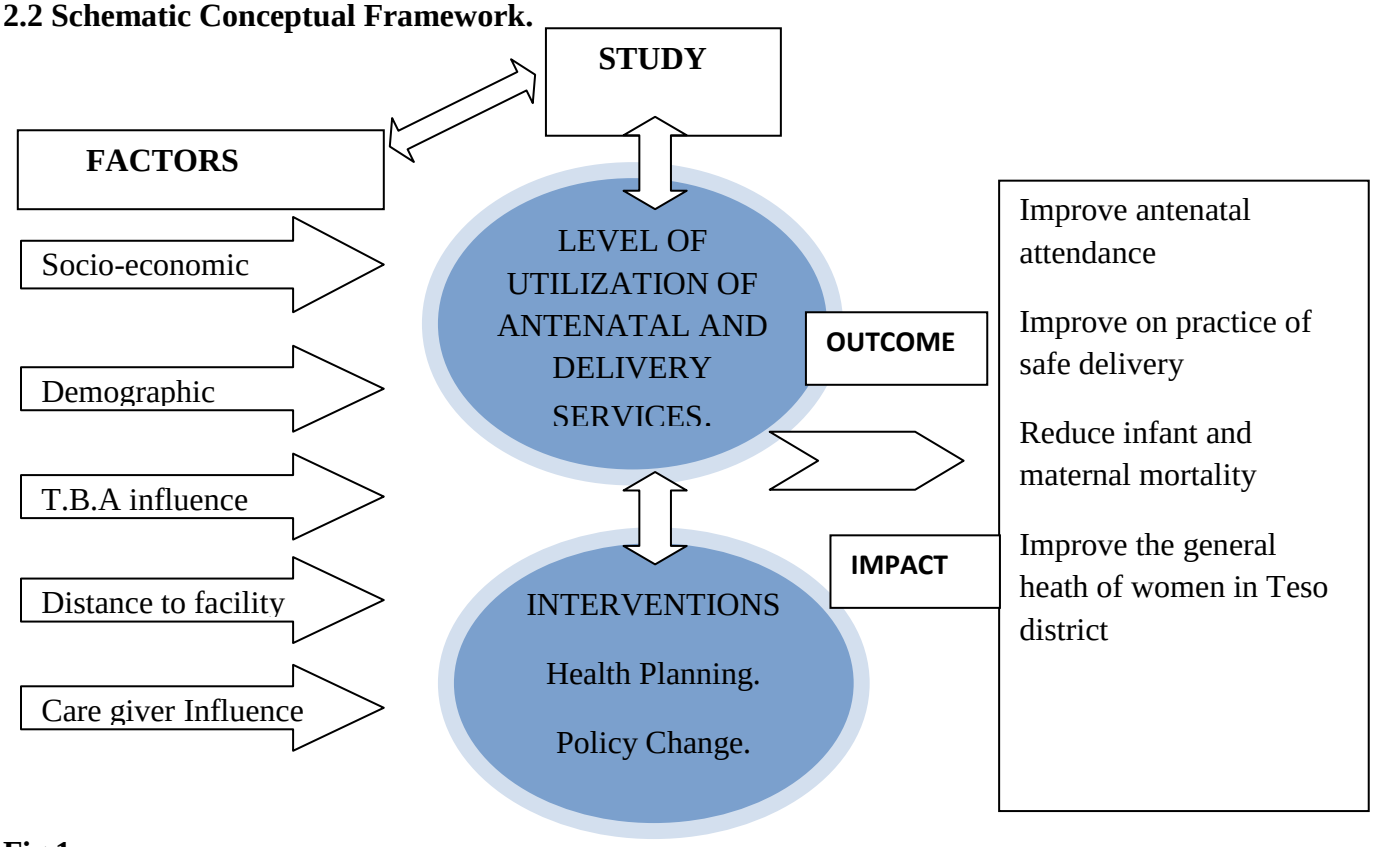

Fig.1

From the study the pattern of utilization of maternal health care services will be determined and the factors influencing level of utilization identified. The factors once identified will help in effective planning and development of corrective interventions.

The findings of this study may also help health planners, policy makers and program managers develop service delivery strategies that are responsive to the health needs of expectant mothers in Teso district.

Improvement of maternal health services utilization will contribute to the improvement of health status of women and children and reduce maternal morbidity and mortality thus making childbirth an enjoyable experience.

2.3 Research question.

What are the factors that lead to low utilization of Antenatal and delivery services among women aged 15-49 whose child is less than one year in Teso district?

2.4 Objectives.

The broad objective was to determine the pattern of utilization of maternal health care services and identify factors that either enhance or constrain it's utilization in Teso district.

2.4.1 Specific objectives

a) To determine the level of utilization of antenatal services in Teso district.
b) To determine the level of utilization of facility delivery in Teso district.
c) To correlate social, demographic and economic factors with the level of utilization of antenatal and delivery services.

CHAPTER THREE

3.0 Methodology

3.1 Study Design.

This was a community based cross-sectional survey targeting women aged 15-49 years whose child was less than one year old in Alomodoi sub- location between 1st July 2013 and 15th September, 2013 to determine level of utilization of Antenatal and delivery services in Teso district. This design was chosen due to its ability in providing information on the level of antenatal and delivery services utilization and the factors influencing its utilization in Teso district at a particular point in time. Participants will be within their area of comfort thus accurate results are expected as they will give truthful answers for there will be no fear of victimization unlike in other studies where questionnaires were administered in a health facility while women were attending antenatal clinic.

3.2 Study Site

The study took place in Alomodoi sub- location in Teso district, western province. Alomodoi sub-location has 5 villages namely Adukumut, Alomodoi, Amutogoro, Odukui and Okerebwa. It is among the 82 sub-locations of Teso district with a total population of 4298. Women account for 53.4 % of the population. The sub-location was chosen for the study as it has a high population density when compared to other areas and also has a mixed population of urban and rural settlements, making the area suitable as a representative sample of the entire population of Teso, a high sample size would also be available for the study to improve on the accuracy of the results.

3.3 Study Population

The study population was the women of reproductive age group 15-49 years who had a child less than one year old and who met the eligibility criteria outlined below,

3.3.1 Eligibility Criteria:

3.3.2 Inclusion criteria

Women who consented to participate in the study.

Women whose child was less than one year.

Women who had been area residents for the past one year.

Women who had delivered a Still Birth or had a Neo-natal death.

3.3.3 Exclusion criteria

Women pregnant at the time of the survey.

Women who had an infant death.

Very sick women, bedridden or in uncontrollable pain.

3.4 Sample size

A sample size of 296 women was selected using the Fischer method in excel 2007 spreadsheet with 95% confidence interval and the desired margin of error between the sample and the population of 5% allowed. A p value of 26% represented as a decimal of 0.26 was used as it represents the current percentage utilization of skilled delivery service in western province based

on KDHS 08/09 report.[9]

$$n = \frac{Z^{2} * (P) * (1-P)}{c^{2}}$$

$$n = \frac{1.96^{2} \times 0.26(1-0.26)}{0.05} = 296$$

Where:

N= Sample size

Z = 1.96 for 95% confidence level.

p = estimated level of skilled delivery utilization, 26 %, expressed as decimal of 0.26.

c = 5% confidence interval, expressed as decimal of 0.05.

3.5 Data Collection and Management

Data collection was done using a Pre-tested questionnaire by the principle Investigator and 5 research assistants. Before the survey the principle investigator obtained a written permit from the MOH and District officer to proceed with the study. Each village was assigned a research assistant. The sample size to be interviewed by each research assistant was randomly determined as 65. The research assistant visited homesteads to interview the study participants. The homesteads were randomly selected using the snow-bowl and convenient sampling methods. Signed Consent was sought after explaining to the study participant the importance of the study. The questionnaires were administered to the participant either in the local language Ateso, English or Kiswahili. After data collection the questionnaires were placed in a locked cabinet for purpose of confidentiality. A total of 305 women were interviewed. The principle investigator

went through all the filled questionnaires to ensure they were filled correctly and nine questionnaires were incorrectly filled thus exempted from the study.

Filled questionnaires were given to the statistician who entered data in an excel spread sheet and analysis done with SPSS for windows 17. Differences in proportions were compared using the Chi-square test or Fisher's exact test where appropriate, and differences in means were compared using the Student's *t*-test. A two-sided *P*-value < 0.05 was considered statistically significant. Odds ratios with 95% confidence intervals were calculated. The effect of the following factors was examined: maternal age, parity, marital status, socio-economic status, education level, independence in decision making, distance to the ANC and obstetric facility on the utilization of antenatal and delivery services in Teso district. A binary regression was performed to identify which factors influenced utilization of antenatal and facility based delivery services.

Results were presented in tables.

3.6 Ethical considerations

Written approval to conduct the study was obtained from the Kenyatta National Hospital Ethics and Research Committee (KNH-ERC) before collection of data.

Informed consent was obtained from the participating mothers. Information about the study was given to the mothers in a language that was most comfortable for them to comprehend. Participation in this study was voluntary. No form of inducement or coercion was applied to participants to force them to participate.

Every precaution was taken to respect the privacy and confidentiality of the mothers who participated in this study. There were no names on the questionnaires and participants were only identified by a unique identification number.

3.7 Study limitations

We did not cross check all the information provided by the women during the interviews with ANC card data as some women lacked them, however we limited the study to women with children less than one year to limit recall bias thus improving on the accuracy of the results. The information we were collecting was also not of a very sensitive nature so we expected the study participants would give truthful answers.

Only women who survived their last delivery were able to participate in this survey, although the number was expected to be small and wouldn't affect the final outcome of the study.

CHAPTER FOUR

4.0 RESULTS.

A total of 296 women who fit the eligibility criteria were interviewed between 1st July 2013 to 21st September, 2013 in Teso district. Results were presented in tables.

Table 1. Socio-demographic and Economic characteristics of Respondents

Variable	**Number (n= 296)**	**PERCENTAGE (%)**
Age (years)		
15-19	33	11.1
20-24	107	36.1
25-29	103	34.8
30-35	28	9.5
➢ 35	25	8.4
Religion		
Muslim	2	.7
Protestant	192	64.9
Roman catholic	102	34.5
Marital status		
Divorced	5	1.7
Married	267	90.2
Single	22	7.4
widowed	2	.7
Maternal level of Education		
None	17	5.7
Primary	201	67.9
Secondary	64	21.6
Vocational	4	1.4
College/University	10	3.4
Husbands level of Education		
None	20	6.7
Primary	187	63.2
Secondary	73	24.7
Vocational	14	4.7
College/University	2	0.7
None	20	6.7
Income		
Less than a dollar	156	52.7
Above a dollar	140	47.3

Table 1 shows, a total of 296 women participated in the study. The average age of the women interviewed was 25.96 with a SD of 6.6. 11.1% of the women were below 19 years of age, majority of the women were between 20-29years of age (70.9%). Two hundred and sixty seven (90.2%) were married, while 7.4% were single. Majority of women 64.9% were Protestants. Seventeen (5.7%) of the women had no formal education, 67.9% had primary school education and 21.6% had secondary education. When compared to their husbands more women had achieved college or university education. One hundred and fifty six participants (52.7%) live in relative poverty as they spent less than a dollar per day on household items.

Table 2. Antenatal Services utilization.

Variable	**Number (n= 296)**	**Percent (%)**
Site of ANC		
Government facility	271	91.6
Private facility	15	5.1
TBA facility	2	0.7
Never attended	8	2.7
Time of First ANC visit		
Never attended	8	2.7
1st trimester (1-3 months)	42	14.2
2nd trimester (4 - 6 months)	203	68.6
3rd trimester (7- 9 months)	43	14.5
Number of ANC visits		
None	8	2.7
1 visit	13	4.4
2 visits	31	10.5
3 visits	139	47.0
4 and above	105	35.5
Distance to facility(Hours)		
Less than one hour	141	47.7
1 – 2 Hours	17`	5.7
➢ 2 Hours	138	46.6

Table 2 shows the pattern of utilization of antenatal services, Two hundred and eighty six women (96.7%) received ANC during their last pregnancy. 91.6% of the respondents attended ANC in a government facility. Of the eight women who never had ANC, five gave reasons of having no time to attend ANC while three felt embarrassed to attend the clinic. During their last pregnancy, majority of those who received ANC first attended the clinic during the second trimester. Only 14.2% of the respondents started ANC in the first trimester. Most women 47% visited the clinic 3 times, 35.5% made four and above visits as recommended by WHO. Majority of women 47.7% live close to a health facility where they can receive antenatal service, less than one hour walk.

Table 3. Delivery Services utilization.

Variable	**Number (n= 296)**	**Percentage (%)**
Place of delivery		
Home	182	61.5
Hospital	93	31.4
TBA facility	21	7.1
Decision Maker on place to deliver		
Health workers	12	4.1
Husband	45	15.2
Relatives	16	5.4
Self	223	75.3
Distance to facility (Hours)		
<=2 hours	264	89.2
3-4 hours	24	8.1
>4 hours	8	2.7
Assistance during Delivery		
Health worker	102	34.5
Relatives	48	16.2
Self	21	7.1
TBA	125	42.2

Table 3 shows the pattern of utilization of delivery facilities. 31.4% women delivered in a hospital setting. The preferred place of delivery was at home (61.5%). A large proportion of women who received ANC at a government or private facility eventually delivered at home. Most women made an independent decision on where they wanted to deliver from (75.3%) only 15.2% were influenced by their husband or health care provider (4.1%). Most of the deliveries were conducted by traditional birth attendants and 7.1% women gave birth by themselves. Majority of women live close to a health facility with 264 (89.2%) reporting that they live less than a two hour walk from a delivery facility.

Table 4. Correlating social, demographic and economic factors with antenatal clinic attendance.

Themes	Parameter	ANC Attendance (n=296)		Bi-variate Analysis			
		Not Attend (%)	Attend (%)	Chi-square	d.f.	p-Value	Significance
Age of the mother (years)	15-19	1.0	10.1	3.713	1	0.068	N.S
	20+	2.4	86.5				
	Sub-Total	3.4	96.6				
Age (re-defined)	High risk (<=19 years & 35+ years)	1.0	20.3	0.469	1	0.493	N.S
	Stable age (20 - 34 years)	2.4	76.4				
	Total	3.4	96.6				
Number of children	1 child	1.4	22.3	2.197	2	0.333	N.S
	2-3 children	0.7	38.9				
	4+ children	1.4	35.5				
	Sub-Total	3.4	96.6				
Marital Status	Married	2.0	88.2	10.683	1	0.001	Sig
	Others	1.4	8.4				
	Sub-Total	3.4	96.6				
Education level of the respondent	No school	0	5.7	4.892	2	0.087	N.S
	Primary	3.4	64.5				
	Post-primary	0	26.4				
	Sub-Total	3.4	96.6				
Economic status	Poverty status < USD 1 per day	1.4	51.4	0.67	1	0.064	N.S
	Moderate social economic status	2.0	45.3				
	Sub-Total	3.4	96.6				
Decision maker	self	3.4	76.9	2.533	2	0.282	N.S
	spouse	0	14.2				
	relatives	0	5.4				
	Sub-Total	3.4	96.6				
Distance to facilities (hours)	1 hour	1.7	45.9	0.023	1	0.879	N.S
	2+ hours	1.7	50.7				
	Sub-Total	3.4	96.6				
Previous ANC attendance?	Yes	1.4	66.2	2.589	1	0.058	sig
	No	2.0	30.4				
	Sub-Total	3.4	96.6				

Testing of association was done using pearson's chi-square test to evaluate the factors associated with antenatal clinic attendance. Antenatal attendance was found to be correlated with women's marital status, economic status and previous history of antenatal clinic attendance.

Table 5. Binary regression to identify factors that influenced Antenatal Services Utilization.

Variable	Odds Ratio	95%	C.I.	Coefficient	S. E.	Z-Statistic	P-Value
Previous ANC attendance (yes vs. no)	**0.1238**	**0.0147**	**1.043**	**-2.0889**	**1.0873**	**-1.9212**	**0.0547**
Decision make on where to attend ANC (self vs. spouse & others)	175057.4	0.	>1.0E12	12.0729	193.6916	0.0623	0.9503
Time of First ANC visit in last pregnancy (1st trimester vs. others)	2.0382	0.3167	13.1156	0.7121	0.9499	0.7496	0.4535
Number of ANC visits one had in the last pregnancy	2.1797	0.3978	11.9427	0.7792	0.8678	0.8978	0.3693
Duration taken to the ANC clinic while walking	1.7115	0.3119	9.3906	0.5374	0.8686	0.6187	0.5361
Age of the client	1.3724	0.3555	5.2976	0.3165	0.6892	0.4593	0.646
Age groups of the clients (<= 20 years groups vs. > 20 years)	0.5209	0.0277	9.8085	-0.6521	1.4977	-0.4354	0.6632
Parity (Para 1 vs. others)	0.5076	0.1104	2.3344	-0.6781	0.7785	-0.871	0.3837
Economic status (Above national economic poverty > Kshs. 85/day vs. less than 85/day)	**0.195**	**0.0345**	**1.101**	**-1.6346**	**0.8831**	**-1.851**	**0.0642**
Education level of client(upper primary vs. others)	5.3857	0.7591	38.2087	1.6837	0.9997	1.6843	0.0921
Knowledge on Time when one should have the first ANC visit	0.219	0.0295	1.6264	-1.5188	1.023	-1.4846	0.1377
Client's perception on selected ANC issues (at least 5+ correct issues vs. others)	3.1454	0.6403	15.4507	1.1459	0.8121	1.411	0.1582
Marital status (married vs. other groups)	**0.0496**	**0.0053**	**0.4635**	**-3.004**	**1.1404**	**-2.6342**	**0.0084**
CONSTANT	*	*	*	2.3675	4.2406	0.5583	0.5766

The table shows that the only factors that influenced antenatal attendance were a woman being married (p 0.0084) and history of previous antenatal clinic (p 0.0547). Economic status of the family played a borderline role towards influencing women on antenatal care attendance. Other known factors such as maternal age, education level of client, parity and distance to a health facility were of no significance in determining whether a woman would attend ANC or not.

Table 6.Correlating social, demographic and economic factors with place of delivery

Variables	Details	Place of Delivery (n=269)		Bi-variate Analysis			
		Home %	Hospital %	Chi-square	d.f.	p-Value	Significance
Person who decided place of delivery	Self	57.8	17.6	27.556	2	0.001	Sig
	husband	6.8	8.4				
	others	4.1	5.4				
	Sub-Total	68.6	31.4				
Distance to facility (in hours)	N/A	1.0	0	1.586	3	0.663	N.S
	<= 2 hours	61.1	28.0				
	> 4 hours	1.0	0.7				
	3-4 hours	5.4	2.7				
	Sub-Total	68.6	31.4				
Age of respondent (years)	15-20	7.4	3.7	0.063	1	0.802	N.S
	>20	61.1	27.7				
	Sub-Total	68.6	31.4				
Parity	1 child	12.5	11.1	13.42	2	0.090	N.S
	2-3 children	27.0	12.5				
	4+ children	29.1	7.8				
	Sub-Total	68.6	31.4				
Marital Status	Married	61.8	28.4	0.002	1	0.963	N.S
	Others	6.8	3.0				
	Sub-Total	68.6	31.4				
Education level	No school	5.1	0.7	53.047	2	0.01	sig
	Primary	54.1	13.9				
	Post-primary	9.5	16.9				
	Sub-Total	68.6	31.4				
Economic Status	Poverty status < USD 1 per day	39.9	12.8	7.629	1	0.006	sig
	Moderate social economic status	28.7	18.6				
	Sub-Total	68.6	31.4				
Time of 1st Antenatal visit	1-3	8.4	5.7	2.316	2	0.314	N.S
	4-6	49.3	22.0				
	7-9	10.8	3.7				
	Sub-Total	68.6	31.4				
Number of antenatal visit	1	3.0	1.4	3.425	2	0.18	N.S
	2	43.6	16.6				
	3	22.0	13.5				
	Sub-Total	68.6	31.4				

Testing of association was done using the pearson chi-square test to determined factors associated with utilization of skilled facility. Utilization of a skilled delivery facility was found to be correlated with women economic status, level of education and decision maker on where to deliver.

Table7.Binary regression to identify Factors influencing utilization of facility based delivery.

FACTORS.	Odds Ratio	95%	C.I.	Coefficient	S. E.	Z-Statistic	P-Value
Distance to delivery facility (< 2 hour vs. others)	0.6732	0.3654	1.2405	-0.3957	0.3118	-1.2687	0.2045
Parity (< 1 vs. others)	0.7852	0.4902	1.2577	-0.2419	0.2404	-1.0061	0.3144
Economic status (above national economic poverty > Kshs. 87/day vs. other groups)	**2.3331**	**1.2779**	**4.2597**	**0.8472**	**0.3071**	**2.7583**	**0.0058**
Education level of client(> primary vs. others)	**3.6151**	**2.0297**	**6.4388**	**1.2851**	**0.2945**	**4.3635**	**0.0012**
Knowledge on when one should have the first ANC visit	0.775	0.4214	1.4253	-0.2549	0.3109	-0.82	0.4122
Client's perception on selected ANC issues *(at least 5+ correct issues vs others)*	1.2449	0.7028	2.2054	0.2191	0.2917	0.7509	0.4527
Marital status *(married vs. other groups)*	1.7395	0.6397	4.7301	0.5536	0.5104	1.0847	0.2781
Decision maker on place of delivery (self, spouse & others)	**2.6388**	**1.7023**	**4.0905**	**0.9703**	**0.2236**	**4.3387**	**0.0111**
ANC attendance in previous pregnancy	0.5871	0.2883	1.1955	-0.5326	0.3628	-1.4679	0.1421
Decision maker on where to attend ANC *(self, spouse & others)*	1.3544	0.803	2.2845	0.3034	0.2667	1.1375	0.2553
Time of 1st ANC visit in last pregnancy.(1st trimester vs. others)	0.9747	0.5548	1.7124	-0.0256	0.2875	-0.0891	0.929
Care giver attitude (friendly vs. others)	0.8536	0.4881	1.4928	-0.1583	0.2852	-0.5551	0.5789
Age groups of the clients *(<= 19 years groups vs. > 20 years)*	2.0075	0.6747	5.9724	0.6969	0.5563	1.2527	0.2103
Number of ANC attendance (1 vs. others)	3.3	0.3751	29.0346	1.1939	1.1095	1.0761	0.2819
CONSTANT	*	*	*	-3.6678	1.9038	-1.9266	0.054

Binary logistic regression was performed to identify factors that influenced utilization of facility based delivery and a table drawn to present the findings. The factors identified promoting health service utilization were family economic status thus living above the national economic poverty and women having attained primary education. Women independence in decision making on place of delivery had a positive impact on utilization of facility based delivery. Other known factors as age of client, number of antenatal visits, time of first antenatal visit and previous obstetric experience played no role in influencing women to deliver in a health facility.

CHAPTER FIVE

5.0 DISCUSSION

Attendance at antenatal clinics (ANCs) and receiving professional delivery care have been associated with a reduction in maternal deaths. In many developing countries, the majority of births occur without the help of a skilled assistant at home or in other non-hospital settings. Home deliveries in the absence of skilled professional attendants have been associated with adverse infant and maternal outcome. In this study the level of utilization of antenatal and delivery services in Teso district was evaluated and the factors that influenced its utilization identified.

The study identified the key factors influencing antenatal attendance by women in Teso district to be previous history of antenatal attendance, family's Economic status and women being of married status.

From the study Facility based delivery utilization was influenced by family's economic status, level of maternal education and women independence in decision making on place of delivery although majority of the Women delivered at home.

Our findings showed that almost all the women sampled received antenatal care. This can probably be explained by women living close to a health facility and also women being knowledgeable on the importance of antenatal clinic in monitoring pregnancy progress. These results are also backed up by those of the Kenya Demographic and Health Survey of 2008/09 which showed that antenatal clinic attendance stood at 99.4%.

Consistent with KDHS 2008/9 report, only 14.2% of the woman started attending ANC in the first trimester. Low ANC attendance in the first trimesters has also been reported in other African and developing countries,[32,33] Late ANC attendance may preclude women from benefiting fully from preventive strategies, such as iron and folic acid supplementation, treatment of helminthic infections, and intermittent preventive treatment with sulfadoxine-pyrimethamine for malaria in pregnancy.

Majority of the women started ANC during the second trimester by which time it may be too late to benefit maximally from some of the services offered at the clinic. Qualitative studies exploring inadequate use of antenatal services in the first trimester have been undertaken in a range of countries, but the findings are not easily transferable from one country to the other. The findings suggest that there may be a misalignment between current antenatal care provision and the social and cultural context of some women in low and medium income countries. Lack of early antenatal attendance has been associated with loss of family resources which is scarce, increased physical danger during travel, the promised care is not being delivered because of resource constraints, and women experience covert or overt abuse in care settings.

A small fraction of women had the recommended 4 and above ANC visits. Under normal circumstances, WHO recommends that a woman should have at least four ANC visits. KDHS 2008/09 report indicates that nationally only 47.1% of women attained the minimum four visits this results are almost similar to the 2006, Uganda Demographic and Health Survey data where only 48% women made four or more antenatal visits during pregnancy.[9, 42]

Unlike in Nigeria and Uganda, where the husband played an important role in determining their partner's ANC attendance, in our study most women made an independent decision.[13, 42] These

can be are attributed to the fact that women in Teso district are relatively at par with their husbands in education which translates to jobs with better pay, which translates into improved status which allows them to have a voice in health matters concerning them and the family at large.

No association was observed when age categories were compared between the two of groups of attendance and non attendance of ANC. A review of studies reported that age serves as a proxy for women's accumulated knowledge of health care utilization: older women are more likely to use maternal health care services than younger women, with effects being observed at particular levels of education and birth order of children.[34, 35]

Despite the fact that 96.7% of the women reported attending antenatal care, only 31.4% gave birth in a health facility. This is lower than the national estimate of 43% for Kenya but higher than 25.8 9% for western Province and that reported in some other African countries.[9, 10] This could probably be explained by ANC sometimes being free or relatively subsidized in most rural settings unlike delivery where women have to pay a higher fee making delivery costly. Failure by clinicians to discuss a birth plan with women during antenatal attendance may also contribute to the low number of women seeking hospital delivery.

Other observed contributing factors for a home delivery included the fast progression of labor, high cost of transport and Poverty as 52.7% of the population lives on less than a dollar per day. Distance to an antenatal or delivery facility was not a key factor as majority of the respondent live less than two hour walk from a facility for ANC or delivery. Other studies have confirmed the importance of distance on access to maternity care.[30]

Education is significantly associated with utilization of maternal health services. In this study maternal level of education was found to influence safe delivery services utilization but not antenatal attendance, this contradicts other studies that reported that education of women is positively associated with utilization of antenatal care.[35, 37]

There are a number of explanations for why education is a key determinant of safe delivery demand. Education is likely to enhance female autonomy; women thereby develop greater confidence and capabilities to make decisions regarding their own health, as well as their children's health. It is likely that more educated women seek higher quality services and have greater ability to use health care inputs to produce better health.

The adult literacy rate for Kenyan females is 84.18%. These rates are not that bad when compared with international figures .[36]In this study 21.6% of women had attained secondary education, with majority 67.9% having primary education.

Household expenditure was used to serve as an indicator to assess socioeconomic status of a family. In our study a high proportion of women 52.7% lived on less than a dollar per day. After binary logistic regression analysis, family's economic status was found to be a significant factor in influencing women on utilization of facility based delivery services but not antenatal services. This is inconsistent with the findings of other studies of factors influencing antenatal utilization.[38, 39] This could be explained by ANC sometimes being free or relatively subsidized in most rural settings unlike delivery where women have to pay a higher fee making delivery costly and the population unable to meet the cost of the user fee.

Parity had no significant association with utilization of either antenatal or safe delivery service; in previous studies Women with five and more children were less likely to utilize the service than women who had one child.[40]

Women who gave birth without any assistance were estimated to be 7.1% almost similar with that observed in KDHS 2008/09 (National estimate 8.0%, western province 9.8%) and in a study in Mbeere District, Kenya (6.5%). [9,32] The lack of any attendant during delivery makes it difficult to seek assistance in the event of life-threatening complications. Women should be strongly encouraged to deliver with assistance. The promotion of a delivery plan may be a good step towards sensitizing women on this issue.

TBAs frequently form the backbone of maternity services in rural areas, and in our survey they attended to about 41.9% of deliveries. It has been suggested that training of TBAs could reduce maternal and perinatal mortality, but recent data have not supported this strategy. [14, 15, and 41] some participants preferred TBAs because of greater flexibility in payment and lower costs compared to health facilities.

5.1 CONCLUSION

Based on the study findings Coverage for antenatal services was high among mothers during their last pregnancy. However, only less than a half of the mothers interviewed utilized health facilities for delivery. Observed contributing factors for a home delivery included the fast progression of labor, high cost of transport, poverty and high cost of health facility fee.

Maternal education was an important factor in influencing women to utilize skilled delivery services, with education women are empowered in decision making.

High economic status was associated with utilization of skilled delivery services.

5.2 RECOMMENDATION

All health care providers should be encouraged to discuss a birth plan with women at the first contact in the antenatal clinic and should emphasize the importance of subsequent antenatal visits in the monitoring of pregnancy and encourage women to deliver at a health facility.

The government should ensure universal utilization of antenatal and delivery services care irrespective of their ability to pay.

Universal access to education should be encouraged for the girl child as it will help them make a more informed decisions concerning their health as well as raise their income level.

Development of community programs to sensitize mothers on the importance of initiating the first antenatal visit early enough and also on the frequency of visits for a maximum uptake of the care content.

A follow-up study needs to be done to determine the impact of free maternity health care in the utilization of antenatal and delivery services in Teso district or any other rural setting.

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APPENDICES

APPENDIX I

Consent Form

I am a postgraduate student at the University of Nairobi. I am doing a study to evaluate level of utilization of antenatal and delivery services in Teso district.

It has been noted very few women nationally and more so in western Kenya use antenatal and facility based delivery services. The purpose of my study is to find out why this is so, and to make recommendations on how improvements can be made towards encouraging women to attend antenatal clinics and deliver at health facilities.

The study involves filling out a questionnaire. This should take about 15 – 20 minutes. Your participation in this study is entirely voluntary. You do not have to decide today whether or not you will participate in the study. Before you decide you can talk to anyone you feel comfortable about the study.

There may be some words you do not understand in the questionnaire please ask me to stop and I will take time to explain. The information that we collect from you will be confidential and will only be used for purposes of the study.

This proposal has been reviewed and approved by KNH/UON-ERC, which is a committee whose task it is to make sure that study/research participants are protected from harm. If you wish to find out more about the KNH/UON-ERC, you can contact them on: email.uonknh_erc@uonbi.ac.ke, telephone number, +254-20-2725698, mobile: 0721665077

Certificate of Consent

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this study.

Signature of Participant _____

or

Thumb print of participant_____

Signature of witness; _____

Date _____

APPENDIX II

Maternal Questionnaire (SQ)

The purpose of this questionnaire is to gather information about factors influencing utilization of antenatal and delivery services in Teso district. I request you to feel free and co-operate in this exercise.

The questionnaire will administered to you in the local language by a research interviewer

Sample Questionnaire.

Tick on the correct response

SOCIO-DEMOGRAPHIC DATA

1. Village of Residence: _____

2. Age in years:_____

3. Mothers Religion: Muslim ☐ Roman Catholic ☐ Protestants ☐

Others:_____

4. Number of children delivered:_____

5. Marital status: Married ☐ Single ☐ divorced ☐

widowed ☐

6. Education status; Primary ☐ Secondary ☐ College/University ☐ None ☐

7. Spouse Level of Education: Primary ☐ post -primary (vocational) ☐

Secondary ☐ College ☐ University ☐

8. How much do you spend per week on household items_____

General Knowledge Assessment.

9. When should one have the first ANC visit?

As soon as pregnant ☐ before baby starts kicking ☐

When complication is experienced ☐ anytime one feels ☐

Others :(specify) _____

10. What's the importance of ANC?

Just a routine for any woman; ☐

Detect and treat problems ☐

Help decide place of delivery ☐

Help know fetal well being ☐

Always leads to a bad outcome ☐

11. What is your perception of the following statements?

Any woman can develop complications during pregnancy and delivery	Yes ☐	No. ☐
Delivery complications can be dangerous to the health of a woman	yes ☐	No ☐
A woman should plan before time where she will deliver	yes ☐	No ☐
A woman should plan before time how to get to the place of delivery	yes ☐	No ☐
Every pregnant woman needs a skilled attendant at time of delivery	yes ☐	No ☐
Being attended to by a male health worker is shameful	yes ☐	NO ☐
It's shameful to deliver in a labor ward	yes ☐	NO ☐
Women don't deliver in a health facility because it's expensive	yes ☐	NO ☐

Women don't deliver in a health facility because health workers don't treat them respectfully

yes ☐ No ☐

Antenatal Care

12. Where did you attended ANC in your last pregnancy: Government facility ☐

Private facility ☐ TBA facility ☐ Community midwife ☐

Never attended ☐

13. Who decided on where to attend ANC?

Husband ☐

Relatives ☐

Self ☐

14. If ANC not attended, what are the reasons ?

No time ☐

ANC not necessary ☐

Feeling embarrassed ☐

Living far away from health facility ☐

Previous bad experience ☐

15. When was the first antenatal visit in the last pregnancy in months?

1 - 3 ☐ 4-6 ☐ 7-9 ☐

16. How many antenatal visits did you have in the last pregnancy

1 ☐ 2 ☐ 3 ☐ 4> ☐

17. What services were you given in ANC/ use card as evidence if present?

Anti-T>T Yes ☐ No ☐ No of injections:_____

Weight Yes ☐ No ☐ Number of times_____

Height Yes ☐ No ☐

Urinalysis Yes ☐ No ☐ Number of times_____

HIV test Yes ☐ NO ☐ Number of times_____

VDRL Yes ☐ NO ☐

Blood group Yes ☐ No ☐

Blood level Yes ☐ No ☐

Iron and Folate Yes ☐ No ☐ Duration of drug;_____

Anti-malaria Yes ☐ No ☐ Number of times treated_____.

Anti-helminthes Yes ☐ No ☐ Number of times given_____

Health education yes ☐ No ☐

18. What's the duration taken to the clinic while walking?

<1hour ☐ 2hours ☐ >2 hours ☐

19. Any problem experienced during pregnancy the last pregnancy:

Aph(bleeding) ☐

Severe Headache ☐

Urine tract infection ☐

Vaginal discharge ☐

Fits ☐

Excessive vomiting ☐

Face and leg swelling ☐

Others specify:_____

20. Did you attend ANC in the previous pregnancy? Yes ☐ No; ☐

Obstetric History

21. Where did you deliver in the last pregnancy: Hospital ☐ Home ☐

TBA Facility, ☐

22. Did you experience any complication during labor?

Prolonged labor ☐

Vaginal bleeding ☐

Fits ☐

None ☐

23. Did you experience any complication after delivery?

Excessive bleeding ☐

Fever ☐

Retained placenta ☐

Convulsion ☐

Foul smelling vaginal discharge ☐

24. If complication happened after home delivery did you go to hospital?

Yes . ☐ No. ☐

25. Who decided place of birth in your last pregnancy:

Self ☐ Husband ☐ Relatives ☐ Health worker ☐

26. If home, who assisted in delivery?

Self ☐ Relatives ☐ TBA ☐ health worker (nurse, Doctor, C.O) ☐

27. What made you deliver at home?

Short labor ☐

Absence of problem during labour ☐

Usual practice ☐

Needed close attention from family ☐

Home delivery comfortable ☐

Cultural influence ☐

High health facility fee ☐

High cost of transport ☐

Health facility closed ☐

Lack of supplies, medicine, equipments in hospital ☐

Attitude of health personnel poor ☐

Unprepared ☐

Others specify _____

28. What made you deliver in Hospital?

Encountered problem, ☐

Personal choice ☐

Influenced by health worker ☐

Usual practice ☐

Previous bad outcome ☐

Hospital delivery is best as complication sorted fast ☐

29. What was the attitude of the care giver in hospital?

	Yes.	No.
Friendly	☐	☐
Insulting	☐	☐
Inpatient	☐	☐

Neglectful Yes ☐ No ☐

30. If hospital delivery after how long were you discharged.

<24hrs ☐ 24hrs ☐ 48hrs ☐ 72hrs ☐ >3days ☐

31. If more than three days why; specify

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31. Were you assed before being discharge, Yes ☐ NO ☐

32. Hours taken to the delivery facility while walking

Less than 2hours ☐ 3 to 4 hours: ☐ >4hours ☐

33. What was condition of newborn?

Alive ☐ Live but died ☐ Born Dead ☐