

Research Article

Health System Factors Affecting Uptake of Antenatal Care by Women of Reproductive Age in Kisumu County, Kenya

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This study sought to determine how health system factors affect antenatal care services uptake. A descriptive cross-sectional study design was adopted. The population under study was selected household members of the community, facility in charges as well as community own resource persons in Kisumu county. The study used purposive sampling method in selecting the Key Informants. A total sample size of 300 respondents were interviewed. The study used an interview and questionnaires to collect data. Descriptive statistics and chi-square tests were used to analyse data with the help of Statistical Package for the Social Sciences. Chi-square analysis showed that distance to facility ($p=0.043$), waiting time ($p=0.012$), means of transport used ($p=0.016$), perceived quality of services ($p=0.000$) and perceived attitude of service provider ($p=0.000$) were significant as pertains to number of ANC visits. The study concluded that health system factors affect uptake of ANC. Specifically, lack long distance to hospital, long waiting time, poor quality of services, commodity stock outs and poor attitude of staff. The combination of these factors reduced uptake of ANC. The study recommended integration of traditional birth attendants, community health workers and health care workers services, regular ANC Outreaches and better equipping of rural health facilities.

Keywords: antenatal care uptake, health system factors, distance, means of transport, waiting time, quality of services and provider attitudes

INTRODUCTION

Maternal mortality rate remains high at five hundred per every one hundred thousand live births across Sub-Saharan Africa (Dansou, Adekunle & Arowojolu, 2017). However, in western Kenya estimates obtained from a Kenya Demographic Health Survey (KDHS) show that seven hundred and forty maternal deaths occur per every one hundred thousand live births in the five-year period between 2009-2014 (KDHS, 2014). These numbers are worrying as they are significantly higher than the Kenyan national average which is five hundred and ten maternal deaths per every one hundred thousand live births. In Kisumu Maternal mortality is high at 590 per 100,000 live births (Kisumu HIV Strategic Plan, 2018). Malaria is endemic in Kisumu since the location of the area is a breeding ground for female anopheles' mosquitoes. There are also high rates of HIV infection which now stands at 19.3% which is the 3rd highest in the country (Kisumu County AWP, 2017/2018).

Kenya offers focused antenatal care services for all pregnant women free of charge through the Linda mama program. This program includes identification and management of obstetric complications and infections such as human immune deficiency virus (HIV); the

prevention of mother to child transmission (PMTCT), syphilis and other sexually transmitted infections. Activities in the program also include provision of prophylaxis for malaria through intermittent preventive treatment (IPT) with Sulfadoxine-Pyrimethamine (SP), anaemia through provision of iron and folate and tetanus toxoid vaccination. All the lab tests are recommended in the 1st ANC visit in order to form part of the ANC profile (World Health Organization, 2016).

The World Health Organisation (WHO) (2016) recommends 8 visits for focused antenatal care (FANC), but Kenyan Ministry of Health still recommends at least 4 visits. One study conducted in western Kenya reported that although the vast majority (90%) of pregnant women who participated in the study visited the antenatal clinic (ANC) at least once during their last pregnancy, only 36% made their first visit within the first trimester as

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recommended. Furthermore, numerous studies find that that a high number of pregnant women still deliver at home with the help of traditional birth attendants (TBA) as opposed to skilled birth attendants (SBA) as recommended. A study conducted in the study area found that majority (80%) of pregnant women delivered at home with slightly less than half (42%) being assisted by TBAs, 36% were assisted by lay persons while 22% received no assistance (Wanjira, Mwangi, Mathenge, Mbugua & Ng'ang'a, 2011). In light of these findings, the current study therefore aims to look at why some women access antenatal or delivery care in formal health facilities in Kisumu County while majority chose not to.

To prevent and manage complications of pregnancy, antenatal care is recommended for every pregnant woman. However, for antenatal care to be effective it should be initiated as early as possible and continued throughout the pregnancy until delivery. In cognizance of this fact, the government of Kenya through the ministry of health recommends at least four antenatal visits for pregnant women. To encourage uptake of antenatal care, the government has subsidised all antenatal care services such that pregnant women don't have to pay to access antenatal care. Despite these efforts, antenatal care uptake is still low in Kisumu at 43% which is lower than the national average (58%). A study is therefore necessary to establish the determinants of uptake of these services. This study sought to determine how health system factors, affect antenatal care services uptake. Despite the free maternity services under the Linda Mama program in the country, ANC services are still underutilized by pregnant women. This has not only been an observation in the rural areas where accessibility is an issue, but urban areas with majority of the private and public facilities. Kisumu East being the city Centre, has 5 referral facilities; 2 Sub-County hospitals and the ANC Coverage is 43% which is below the national coverage that is 58%.

MATERIALS AND METHODS

A descriptive cross-sectional study design was adopted. The study was conducted in Kisumu East Sub-County, one of the 7 Sub-Counties in the region. The population under study was selected household members of the community, facility in charges as well as community own resource persons in Kisumu county. Purposive sampling was used to arrive at a sample of 300 households. The study used an interview and questionnaires to collect data. The interview was used to collect data from the key informants. Questionnaires were used to collect data from the women of reproductive age. The questionnaire was researcher-administered and contained both closed and open-ended questions. The questionnaire had 5 sections A, B, C, D and E which collected data on demographic information, knowledge on FANC, proportion of antenatal care visits, barriers to attendance of FANC visits and facilitators to attendance to FANC visits respectively. Quantitative data

was analyzed using descriptive statistics comprising frequencies, percentages and means. Qualitative data was organized to pertinent themes relevant to the study and then analyzed using descriptive statistics. Analysis of data was conducted with the help of SPSS software. The frequencies and percentages were presented in terms of tables. Chi-square tests were used to check for relationships.

RESULTS AND DISCUSSION

Socio Demographic Characteristics of Respondents

Table 1 shows that the majority (60%) of respondents were aged between 21 and 30 years. The age of respondents ranged from 16 to 46 years ($M=27.3$, $SD=6.7$). The findings indicate that 80% of the respondents were married women, 14% were single women, 4% divorced while 5% are widowed. This indicates that most women get married at an early age. Among those respondents who were married, they had been married for between 4 months to 25 years with an average of 7.9 years ($SD=6.1$). From Table 1, it can be seen that the majority (97.3%) of women in Kisumu-East were Christians. Most (48.7%) of the women were stay-at home moms/housewives. This indicates that almost half of the women in the reproductive age in Kisumu East Sub-County are dependent on their husbands. Table 4.1 also presents the level of education of the women in Kisumu East Sub-County. 41.6% had attained primary education, 40.9% had managed to get Secondary education, 16.8% have reached Tertiary level and the least group is 0.7% who have not had any formal education. This is an indication that many women in Kisumu East Sub-County have completed their primary and secondary education. Being an urban settlement, school dropout rate is low.

Table 1: Socio Demographic Characteristics of Respondents

Characteristic	Category	Frequency (n)	Percent (%)
Age (years)	<20	22	15
	21-30	89	60
	31-40	34	23
	>41	4	2
Religion	Christian	146	97.3%
	Muslim	4	2.7%
Marital Status	Married	120	80.0%
	Single	21	14.0%
	Widow	5	3.3%
	Divorced/ Separated	4	2.7%
Occupation	Employed	23	15.3%
	Self-employed	49	32.7%
	None	67	44.7%
	Other	11	7.3%
Level of Education	Primary	62	41.6%
	Secondary	61	40.9%
	College/ University	25	16.8%
	Never went to school	1	0.7%

Uptake of Antenatal care

Most (96%) respondents had attended ANC during pregnancy, though more than half (53.4%) started ANC within 3-6 months of pregnancy as shown in Table 2. Another element that was used to establish the uptake of ANC services was the timing of the first visit. Table 2 shows when the respondents actually attended the first visit to the ANC clinic. 21.2% of the respondents attended the first visit of the ANC clinic in the first trimester which is between 0-3 months. Majority of the respondents, 53.4% visited in the second trimester while 25.3% visited in the third trimester. This indicates that majority do not visit the ANC clinics immediately in the first trimester. Table 2 shows the distribution of number of visits that respondents made for the ANC clinic. 69.4% of women in the urban Kisumu East Sub-County attend more ANC clinic four times and above. A significant number still do not. This indicates that not all women in Kisumu East Sub-County seek ANC services throughout their pregnancies.

Table 2: Distribution of ANC Attendance in the last pregnancy

	Response	Frequency (n=150)	Percent
Attended ANC during pregnancy	Yes	144	96.0%
	No	6	4.0%
Timing of first ANC Visit	Within 0-3 months	31	21.2%
	Within 3-6 months	78	53.4%
	Within 6-9 months	37	25.3%
	During delivery	0	0.0%
Distribution of number of actual ANC visits among the respondents	Once	5	3.4%
	Twice	9	6.1%
	Thrice	34	22.6%
	Four times and above	102	69.4%

Health System Factors

Table 3 shows the health system factors assessed in the study. Slightly above half (59.3%) thought the distance from their home to the facility is far. The findings show that 43.3% used motor cycles while 36% used motor vehicles as their means of transport. A significant number of women (66.4%) were not happy with the waiting time; however, 86.6% of women reported a good attitude from the health care personnel. Majority (76%) of the respondents were satisfied with the quality of services with 48% indicating that services were good while 28% indicating that they were very good.

Table 3: Health System Factors

Factor	Response	Frequency (n)	Percent (%)
Distance	Near	61	40.7%
	Far	89	59.3%
Means of transport used	Motor vehicle	54	36.0%
	Motor cycle	65	43.3%
	Bicycle	9	6.0%
	Walking	22	14.7%
Satisfaction with waiting time	Yes	50	33.6%
	No	99	66.4%
Quality of services	Very Good	42	28.0%
	Good	72	48.0%
	Average	31	20.7%
	Poor	5	3.3%
Attitude of the service provider during ANC visit	Good	129	86.6%
	Poor	20	13.4%

Relationship between Health System Factors and Uptake of ANC

Results in 6 show that there was a significant relationship ($p=0.043$) between distance to facility and attendance of ANC. Similarly, there was a significant relationship ($p=0.012$) between satisfaction with waiting time and attendance of ANC. Most of those who attended ANC lived near and those who indicated that they were satisfied with waiting time were more likely to have attended ANC. Results also show that means of transport used ($p=0.016$), perceived quality of services ($p=0.000$) and perceived attitude of service provider ($p=0.000$) were significant as pertains to number of ANC visits. Those who used bicycles, motorcycles and motor vehicles made more visits than those who walked. Those who perceived services to be "good" and "very good" were more likely to have made the four recommended visits. In addition, those who indicated that providers attitude was good were more likely to have made four or more ANC visits.

Table 4: Relationship between Health System Factors and Uptake of ANC

Health system factors	Uptake Of ANC	
	Attended ANC	Number of visits
Distance	0.043***	0.928
Means of transport used	0.698	0.016***
Satisfaction with waiting time	0.012***	0.921
Quality of services	0.165	0.000***
Attitude of the service provider during ANC visit	0.504	0.000***

***Significant at 95% CI

There was a significant relationship ($p=0.043$) between distance to facility and attendance of ANC. The means of transport used ($p=0.016$) was also significantly related to the number of ANC visits made. Consequently, the hospital is far from their homes hence they require fare to

get to the Health facility. A majority of them utilize motorcycles and a significant number also utilize motor vehicles to get to the hospital hence lack of money directly impacts their ANC attendance. Additionally, the hospital charges a fee for ANC profile which increases the burden on the patients. This relates to a study conducted by Kawungezi *et al.*, (2015), which revealed that among the women who had an interest in delivering in hospital lack of transport, bad weather and the distance to health facility were great challenges especially when they had to deliver in wee hours.

There was a significant relationship ($p=0.012$) between satisfaction with waiting time and attendance of ANC. One key facilitator is related to the amount of time that is spent waiting to acquire services at the hospital. Visiting the hospital with one's partner not only offers support but also ensures faster service as one is attended to first regardless of the time they arrived at the hospital. Additionally, this serves as an opportunity to help their husbands/partners to understand the processes and costs involved during such periods. It also serves as a way through which couples get to know their health status and acquire guidance and counselling. This is consistent with findings of Galle *et al.* (2015), Chorongu *et al.* (2016), Bwalya *et al.* (2018) and Okonofua *et al.* (2018) who in similar studies found that waiting times were high and this proved a barrier to uptake of antenatal care by pregnant women.

Perceived quality of services ($p=0.000$) influenced the number of ANC visits made. The quality of service offered by a particular health facility also affects the number of patients who would seek services in it. A majority of the respondents were generally unhappy with the manner in which services are offered in the facility siting issues like long waiting time to acquire service. Additionally, commodity stock outs are another concern that reduce the number of people seeking service in the health facility. This is similar to findings of Diamond-Smith, Sudhinaraset and Montagu (2016) who found a disconnect between patients' perceptions and clinical quality of services. Chemir, Alemseged and Workneh (2014) also found that even though greater percentages of women (60.4%) were satisfied with the focused antenatal care service, the level of satisfaction was lower compared to other studies. The finding differs with that of Fawole, Okunlola and Adekunle (2008) whereby majority of pregnant women were satisfied with the care they received. Emelumadu *et al.* (2014) study also showed high level of satisfaction with quality of maternal health services among antenatal attendees the finding also differs with Naeze *et al.* (2013) who found that there was a high overall level of satisfaction with antenatal services among pregnant women.

Perceived attitude of service provider ($p=0.000$) was also significantly related to the number of ANC visits made. Bad attitude and reception from the hospital workers was mainly prevalent in public hospitals. According to Pell *et al.* (2013), the interactions that women have with Hospital

staff could at times delay their ANC visits due to their quality of service and that pregnant women from sub-Saharan Africa do not acquire the recommended ANC. This finding is also in tandem with that of Naeze *et al.* (2013), Diamond-Smith *et al.* (2016), Bwalya *et al.* (2018) and Okonofua *et al.* (2018) who found provider attitude as a barrier to uptake and utilization of antenatal care service.

CONCLUSIONS

The study concludes that health system factors affect uptake of ANC. Specifically, lack long distance to hospital, long waiting time, poor quality of services, commodity stock outs and poor attitude of staff. The combination of these factors reduced uptake of ANC. The study recommends that the Kenyan government should adopt group ANC Concept where women are grouped into same groups according to their trimesters and seen as a group. This way it will reduce waiting time, improve staff attitude and motivates pregnant women. Services offered by the TBA, CHW and HCW should therefore be integrated into one package since all three have similar interest to the pregnant mother and all want a safe delivery for the mother and delivery to be done by all in the facility. Regular ANC Outreaches should be conducted in the community every quarter to capacity build and do health education for mothers. A regular organized follow up strategy should be implemented by enrolling delivery champions in every village to assist the healthcare personnel in following up. Cheaper forms of appreciation should be adopted in order to maintain consistency. Health facilities should be well equipped in rural facilities so as to reduce referrals to level four and five hospitals.

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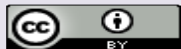
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