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Original Research Article

Factors influencing the uptake of antenatal care services among pregnant women in South Gaalkacyo district, Mudug region, Somalia

Omar A. Haji*, Mbaruk Abdulla Suleiman, Joseph N. Juma

Department of Epidemiology and Biostatistics, Mount Kenya University, Kenya

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***Correspondence:**
Dr. Omar A. Haji,
E-mail: omarhaji444@gmail.com

ABSTRACT

Background: Focused antenatal care addresses specific health conditions of pregnant mothers, therefore, improving health outcomes for mothers and infants including maternal and infant mortality. Somalia is among the first twenty African countries with the greatest maternal and infant mortality rates. Therefore, this study was conducted in the South Gaalkacyo district, Mudug region, Somalia, to investigate the factors influencing the uptake of antenatal care services among pregnant women.
Methods: An analytical cross-sectional study with 385 participants. Data were collected using questionnaires, focus group discussions, and key informant interviews. Logistic forward linear regression analysis was used to examine the relationship between two or more variables of interest. And P-value below 0.05 was considered statistically significant. Bivariate and multivariate analyses were done. Qualitative data were analyzed using thematic analysis.
Results: Of the study participants (52.67%) had poor knowledge of antenatal care and (88.1%) were satisfied with antenatal care services. There was a significant association between the study participants' level of knowledge (p=0.0001), accessibility to health facilities (p=0.016), and health care workers' attitudes (p=0.014) with the use of antenatal care attendance. From qualitative responses lack of support from husbands played an essential role in seeking antenatal health care.
Conclusions: Underutilization of FANC was influenced by women's knowledge, level of education, socio-economic and cultural factors as well as infrastructural factors. More education and awareness are required to educate women on the importance of utilizing ANC services.

Keywords: Antenatal care, Maternal mortality, Pregnant mothers, Knowledge

INTRODUCTION

Individually focused attention to pregnant mothers commonly referred to as antenatal care (ANC) is a model of prenatal clinic attendance that the WHO introduced. This is a kind of approach which addresses the specific health condition of an expectant mother. The objective is to reduce visits to a clinic from 8 to 4 while providing focused care that improves motherhood outcomes. Individual care provides the opportunity for educating the women to identify and react to signs related to the risk of adverse conditions; for example, pre-eclampsia or an infectious disease, and, obstructed labor, which may result in perinatal tears and fistula.[1] During the ANC visits depending on the level of literacy the women are advised on topics ranging from how to prepare for the baby, complications to expect, and probable danger signs. Additionally, they counsel on baby nutrition, exclusively breastfeeding, and advise on methods of fertility control.[2] During the visits to the clinic, women are inoculated against tetanus, prescribed folic acid, and iron for prevention of bifida and anemia, and blood examination for infectious diseases are conducted. Quality of health care institutions manned by trained competent staff rather

than numbers of facilities is critical in achieving the state of wellbeing of mothers.

One of the interventions to decrease maternal deaths and mortality is antenatal care. In 2002, WHO replaced the existing traditional antenatal care service model with the focused antenatal care (FANC) model. In this approach, pregnant women should visit the health facility four times during pregnancy to receive the essential services.[3] However, over 50% of expectant women in developing countries do not get the minimum of four prenatal care visits beginning from the early stages of pregnancy.[4] This is because of the limiting factors including socio-demographic, economic, and cultural factors that impact the uptake of ANC services by the mothers.[5]

Maternal and infant mortality rates are a great public health concern. Out of the first 20, all African maternal mortality rates ranking in Africa, five of these countries are found in East Africa. South Sudan ranks 5th among nations with the highest maternal mortality rates which are 789 per 100,000 live births witan an infant mortality rate of 59.2 per 1,000 live births. Likewise, Somalia, the country is ranked 6th among nations with the highest maternal mortality rate which is 732 per 100,000 live births with an infant mortality rate of 94.80 per 1,000 live births.[6] Global indicators of nutrition and health status suggest that in Somalia, people have some of the worst parameters. Poor participation of the community and the low allocation of financial and human resources contribute immensely to the dismal indicators in Somalia. In addition to the combined problems of prolonged chronic conflict and drought in Somalia[6]. Somalia has also suffered combined problems of chronic conflict and drought over the past two and half decades. Therefore, this study was conducted in the South Gaalkacyo district, Mudug region, Somalia, to investigate the factors influencing the uptake of antenatal care services among pregnant women.

METHODS

Study setting

This analytical cross-sectional study was carried out in the South Gaalkacyo district located in the north-central Mudug region of Somalia. The health delivery system in the district is public and private. The study concentrated on the southern part of the Gaalkacyo District. One functional referral district hospital and health centers are located in this district and dispensaries are run by non-skilled providers. Private health facilities exist in the district but do not have routine ANC services and this study did not cover the private health facilities; the public health facilities were selected for data collection. The health services being offered at public health facilities are supported by local and international non-governmental organizations (NGOs) through funding from European and USA donors. Data was collected from the functional facilities. The district hospital is considered a major public health facility that provides primary and secondary health services to the communities in South Gaalkacyo District.

Sampling technique and sample size

The researcher used the cluster random sampling method single stage of probability type of sampling where participants were be clustered into six clusters namely, Galkacyo south hospital, Bandiradley health center, Xaar-xar health center, SRC health center, Bitaale health post, and Qarqoora health post. The participants were randomly selected from these clusters. each cluster was composed of selected pregnant women based on the proportion of the population in the selected facility. Participants for key informant interviews were drawn from the health workers (midwives, nurses, and, clinical officers) who are directly involved in ante-natal healthcare services delivery at the facilities level using purposive sampling. The sample of 385 participants was determined using Yamane formula; from the population of 171,436 persons in Gaalkayo District in Somalia.

$$n = \frac{N}{1 + N\ (e)^2}$$

Where n=estimated number of study subjects, e=level of significance at ≤0.05, and N=the target population.

Inclusion and exclusion criteria

Pregnant women of reproductive age aged between 15- and 49 years during the study period were included. This study excluded women below 14 years and above 49 years

Data collection

Researcher administered questionnaire was used to collect quantitative data. Qualitative data was collected using focus group discussions (FGD) and the key informant interviews (KII). The collection of data was taped throughout the study. This was done for the following purposes: authentication of the data collection, ensuring the genuine recording of the information, and the efficient extraction and transportation of data for tabulation and analyses.

Data analysis

The data was tabulated, cleaned, coded, and, classified as appropriate. Quantitative data were analyzed using SPSS version 26 to find the association between various Variables. Qualitative data were classified according to themes and sub-themes based. Logistic forward linear regression analysis was used to examine the relationship between two or more variables of interest (dependent variable and independent variable) and p value below 0.05 was considered statistically significant. Bivariate and multivariate analyses were done.

RESULTS

Socio-demographic characteristics of study participants

A total of 450 participants participated in the study. The majority (38.4%) of the respondents were aged between 16-and 20ant years while less than (10%) were aged above 36 years old. Regarding parity, (34.7%) of study participants reported having three children, while about a quarter (16.9%) had not more than two children. Fisher's exact test shows age and parity had no statistically significant with the use of antenatal care services (Table 1).

Table 1: Sociodemographic characteristics of study participants.

Variables	N (%)	Fisher's exact test
Age (years)		
16-20	173 (38.4)	NS
21-25	110 (24.4)	
26-30	78 (17.5)	
31-35	56 (12.4)	
36-40	23 (5.1)	
40-49	10 (2.2)	
Total	450 (100)	
Parity		
<2	76 (16.9)	NS
2	107 (23.8)	
3	156 (34.7)	
>4	111 (24.7)	
Total	450 (100)	

Socio-economic characteristics of study participants

Regarding the level of education, more than half of the study participants (58.1%) hadn't received any formal education, about a quarter (23.6%) had a primary level of education while only 4.5% had a tertiary level of education. Regarding household breadwinners, 92.2% attested that the husbands were the household breadwinners. Engaging in business was the major source of income for 25.1% of study participants, while a paltry 0.7% engaged in farming. Fisher's exact test shows that the level of education (p=0.001) and sources of income (p=0.002) were statistically significant with the use of antenatal care services (Table 2).

Level of knowledge of utilization of ANC services

At least half of the study participants (52.67%) had poor knowledge of antenatal care while only (19.33%) had poor knowledge of antenatal care services. The Chi-square test of independence shows that there was a significant association (p=0.0001) between the study participants' level of knowledge and the use of antenatal care services in the study area (Table 3).

Table 2: Socio-economic characteristics of study participants.

Variables	N (%)	Fisher's exact test
Household breadwinner		
Wife	35 (7.8)	NS
Husband	415 (92.2)	
Total	450 (100)	
Source of income		
Farming	3 (0.7)	p=0.002
Animal production	72 (16.3)	
Business	111 (25.1)	
Other	257 (58)	
Total	443 (100)	
Family income		
<50	73 (16.22)	p=0.0001
100-150	152 (33.78)	
150-200	143 (31.78)	
200-250	59 (13.11)	
>250	23 (5.11)	
Total	450 (100)	
Level of education		
Primary	106 (23.6)	p=0.001
Secondary	62 (13.8)	
Tertiary	20 (4.5)	
None	261 (58.1)	
Total	449 (100)	
Means of transport		
Walking	178 (39.56)	NS
Paid for transport	272 (60.44)	
Total	450 (100)	

Health facility-related factors

The majority (79%) of health facilities in the study area were located in urban areas while 21% were located in rural areas. A large proportion of study participants asserted that the health facilities were accessible (88.6%), while few (11.4%) were on the contrary that the health facility was not accessible. A majority of study participants 98% expressed that health care workers at the health facility were friendly to them and only 2% were unhappy. Most (88.1%) of the study participants were satisfied with antenatal care services received at the health facilities while a paltry (11.9%) were unsatisfied with the level of services accorded to them. The majority of the study participants (96%) did not pay for antenatal care services while only 4% paid for ANC services. The Chi-square test of independence illustrates that the accessibility of health facilities (p=0.016) and health care workers' attitudes were statistically significantly associated with the use of antenatal care attendance (p=0.014) (Table 4).

Table 3: Level of knowledge of ANC services.

Variables	N (%)	Chi-square test
Level of knowledge		
Poor	237 (52.67)	p=0.0001
Moderate knowledge	126 (28)	
Good Knowledge	87 (19.33)	
Total	450 (100)	

Table 4: Health facility-related factors.

Variables	N (%)	Chi-square test
Location of health facility		
Urban	(79)	NS
Rural	(21)	
Total	(100)	
Accessibility to the health facility		
No	51 (11.4)	p=0.016
Yes	398 (88.6)	
Total	443 (100)	
Availability of female health care providers		
Yes	450 (100)	NS
Total	450 (100)	
Perceived health care workers' attitude		
Friendly	438 (98)	p=0.005
Unfriendly	9 (2)	
Total	447 (100)	
Perceived satisfaction of antenatal care received		
Satisfied	(88.1)	p=0.547
Unsatisfied	(11.9)	
Total	(100)	
Payment for antenatal care at the health facilities		
Yes	(96)	NS
No	(4)	
Total	(100)	

Cultural factors influencing the utilization of antenatal care

Qualitative responses illustrate that study participant sought maternal health services from traditional birth attendants. Traditional birth attendants continue to influence pregnant women not to attend regularly to the ANC. "Traditional and cultural norms. communities still believe the TBAs". "We believe the traditional birth attendants at the village, and we only seek medical help when necessary". We are nomadic communities and believe in the traditional culture. Traditional birth attendants are sometimes our primary contact when become pregnant and seek advice. The lack of support of husbands also played an essential role in seeking antenatal health care. "Lack of husband support, traditional norms that exist and influence by mothers which don't encourage pregnant women to attend". "Some women are denied permission by their husbands". "Husband makes the decision as well the influence for TBAs and Mother-in-law".

DISCUSSION

The study found that young women of age 16-20 years (38.7%) were keen to attend the antenatal care services compared to mothers in the age group 40-49 years, this is corroboration with a study which found that comparatively adolescent girls were more akin to attend ANC than the young women.[7] The study found FANC utilization was 67% about two-thirds of the mothers while one-third don't utilize the services posing them at high risks of maternal and infant mortality and morbidity, it is reported that educated women are more aware of the importance and advantages of using the Ante Natal Care services compared to non-educated women. The education level among the study participants was 58.1% corroborating another study.[7]

The study found that about 40% of women know that when they visit the facility, they are under physical examination and history taking. Most of the respondents expressed poor knowledge of ANC services while 19 and 28% expressed good and average knowledge respectively. Knowledge and awareness of ANC services have been found to influence expectant mothers' utilization of ANC services. Health workers' role in raising awareness of pregnant mothers proved to be effective, the majority of the mothers in the study listed their sources of information as coming from health workers by 50.4%. This is in line with a study conducted in Uganda in which was found that the greatest role in creating awareness about ANC was played by health care workers (72.04%), followed by the media (15.46%), and finally friends (12.50%). The majority of the respondents consulted TBAs for reasons such as being near and accessible., lack of awareness or unavailability of focus antenatal care and above all inability to make individual decisions on matters of pregnancy.

Cultural beliefs about pregnancy that it is not a disease and pregnant women, and girls ought to attend to domestic responsibilities including fetching water from the source carrying the load to the homestead, the use of traditional birth attendants and concerns about health worker attitudes and quality of health services are also some of the factors that may contribute to low ANC uptake in this area. Lack of health knowledge among Somali mothers living in Sweden has been reported as one of the barriers to antenatal care.[7] The study found that cultural beliefs still hold the pregnant mothers back from utilizing the ANC services, many of the respondents sought advice from the traditional birth attendants instead of skilled ones. "We believe the traditional birth attendants at the village, and we only seek medical help when necessary". Social-cultural barriers also impact health-seeking behavior by women and adolescents.[8] Women do not have the power to decide on health care seeking options thereby preventing them from accessing maternal care and FP. Participants in this study cited women being denied by husbands or mothers-in-law. "Husband makes the decision as well the influence for

TBAs and Mother-in-law". Infrastructural factors such as transport and health workers' attitude were found to positively influence the ANC utilization by pregnant mothers. Hundred percent of the attendants are females and 98% of women reported the availability of transport.

CONCLUSION

Underutilization of FANC among expectant mothers in the Mudug region of Somalia is influenced by women's knowledge, level of education, socio-economic and cultural factors as well as infrastructural factors. Yong mothers of adolescent age were eager to attend their focused antenatal care in comparison to old mothers. The role of husbands in banning their wives to seek antennal care was documented together with cultural beliefs in traditional birth attendants despite proving that pregnancy without skilled attendants carries high risks of fetal and maternal morbidities and mortalities. All the participants who attended the services reported being seen by female attendants with almost all the caregivers displaying a friendly attitude toward the mothers. The Somalia government should increase awareness-raising activities through all possible means so that pregnant women should be at the center and receive all information about the ANC's importance. There should also be enough supplies and laboratory reagents and tests to be available at health facilities. Health workers should be trained on ANC and maternal health. Community Health workers to be deployed at the Community level and track women to connect to the facilities, provide awareness activities. Community outreach activities should be established to provide ANC services to the remote and distant areas that are not able to come to the facilities. Staff should be trained at the PHUs and Community based health Workers to provide quality services to pregnant women. Referral pathways should be improved for mothers who need advance. The government should also increase the number of health facilities in rural areas. More studies can be done to investigate the role of culture influencing the uptake of FANC services and how that can be converted to positively affect the utilization. Studies can also be conducted to look at behavioral changes among husbands regarding maternal and child health

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