

Knowledge and Perceptions on Antenatal Care among Men in Embakasi South Sub County, Nairobi, Kenya

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ABSTRACT

Background: Involving husbands and men in decision-making processes can play a crucial role in antenatal care uptake and utilisation. However, men often lack necessary knowledge and have misleading beliefs and perceptions.

Subjects and Method: The current research was an analytical cross sectional study conducted in Embakasi South Sub county, Nairobi, Kenya which sought to assess the knowledge and attitude towards antenatal care among men. Kelsey et al sample size determination formula was used to calculate a sample of 66 subjects. A researcher-administered questionnaire was used to collect data. Descriptive statistics and chi-square analyses were used in the analysis of data with the help of SPSS.

Results: The results in this study showed that slightly above half (57.6%, n=38) of the subjects had low knowledge. Slightly above half (51.5%, n=34) had positive attitudes towards ANC. None of the demographic characteristics was significant to knowledge. There was also no significant associations between demographic characteristics and subjects' attitudes towards antenatal care. There was a significant association ($p = 0.048$) between knowledge and attitudes. Results showed that subjects with low knowledge were 2.196 times likely to have positive attitudes.

Conclusion: These findings highlight the current knowledge gap that exists among men regarding antenatal care. An education intervention program ought to be carried out among men in Embakasi South Sub County and other parts of Nairobi and the country. Community health programs should also build on the positive attitudes towards ANC as found in this study to help improve male involvement in antenatal care and other reproductive health issues.

Keywords: antenatal care, knowledge, attitudes, male involvement.

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BACKGROUND

Antenatal care (ANC), the care that women receive during pregnancy, helps to ensure healthy outcomes for women and newborns (Damme et al., 2015). The major goal of antenatal care is to help women maintain normal pregnancies through: identification of pre-existing health conditions, early detection of complications arising during

the pregnancy, health promotion and disease prevention and birth preparedness and complication readiness planning (Downe et al., 2016). World Health Organization (2016) recommends Focused Antenatal Care (FANC) package that promotes the implementation of interventions to address the most prevalent health issues affecting pregnant mothers and newborns. Focused

antenatal care (FANC) is personalized care provided to a pregnant woman which emphasizes on the women's overall health status, her preparation for child birth and readiness for complications or it is timely, friendly, simple safe services to pregnant women (Mchenga et al., 2019) FANC emphasizes quality of visits and individualized care rather than quantity of visits (Ayalew and Nigatu, 2017). The Kenya Ministry of Health (MOH) has designed new guidelines for FANC services, placing emphasis on 4 ANC visits that focus on antenatal care, birth planning and emergency preparedness (Republic of Kenya, 2016).

Globally, progress has been made in terms of increasing access and use of antenatal care, although the proportion of women who are obtaining the recommended minimum of four visits is too low (28%) (WHO, 2016). Damme et al. (2015) indicates that most pregnant women of sub-Saharan Africa countries are presenting late for ANC service. In addition to this, the 2011 Ethiopia Demographic Health Survey showed that only 11% of pregnant women made their first ANC visit before the fourth month of pregnancy (Chorongo et al., 2016). In Rwanda, Central Statistical Agency (2011) established that only about 13.4% of pregnant women made at least four ANC visits. In spite of the potential for focused antenatal care initiated early in pregnancy to save lives and improve the health of both the mother and the baby, only 85.8% of Kenyan women received any antenatal care from a skilled professional during their last pregnancy (Gatarayiha et al., 2016).

Kenya National Bureau of Statistics (2015) indicate that involving husbands and men in decision-making processes can play a crucial role in reducing the 'three delays' (the delay in deciding to seek care, the delay in reaching health services, and

the delay in receiving adequate and appropriate treatment once at a health facility), thereby facilitating women's access to and utilization of skilled maternal and newborn health (MNH) services. Indeed, many studies have reported positive benefits of male involvement in maternal health in developed and developing countries, which include: increased maternal access to antenatal and postnatal services; discouragement of unhealthy maternal practices such as smoking; improved maternal mental health, increased likelihood of contraception usage and allayment of stress, pain and anxiety during delivery (Rahman et al., 2018).

One of the reasons for low involvement in maternal health care services such as ANC is their low knowledge. Men's information about significance of antenatal care, risk indications of pregnancy and what to do about them is extremely pertinent to their lifesaving job during pregnancy and labor. Studies for the most part portray poor information among men (Yargawa and Leonardi-Bee, 2015). Narang and Singhal (2013) study looked to recognize the degree of men's information and mindfulness on maternal, neonatal and youngster medical problems among mediation and control gatherings. This cross-sectional similar investigation was done in six country regions of Bangladesh in 2008. Men liked to accumulate in casual destinations to connect socially. Largely, men's information on maternal consideration was higher in mediation than control gatherings, for instance, exhortation on lockjaw infusion ought to be given during antenatal consideration. There were low degrees of information about birth readiness and infant care in the mediation. Men revealed joint dynamic for conveyance care generally much of the time (Nasreen et al., 2012).

Negative attitudes have been another barrier to male involvement in ANC. Attitu-

de alludes to an inclination or a propensity to react decidedly or adversely towards a specific thought, article, individual, or circumstance. It is a propensity to respond well or negatively towards an assigned class of improvements (Ratanasiripong and Chai, 2013). In psychology, attitude alludes to a lot of feelings, convictions, and practices toward a specific item, individual, thing, or occasion (Kassahun and Mekonen, 2017). Attitudes toward a particular conduct are a foundation of the Theory of Reasoned Action (Fishbein and Ajzen, 1977). Other calculated models, for example, the Health Belief Model (Becker and Joseph, 1988). Kirscht and Jill (2019) regularly incorporate some attitudinal part. For the most part, contemplates discover negative attitudes among men towards their contribution in any part of regenerative wellbeing including antenatal consideration. What's more, where positive attitudes have been discovered, they do not generally mean suggested practice (Kassahun and Mekonen, 2017). This study sought to assess the knowledge and attitude on ANC among men in Embakasi South Subcounty, Nairobi.

SUBJECTS AND METHOD

1. Study Design

This was a cross-sectional study. The study was conducted in Embakasi South. Embakasi south (1.3238° S, 36.9000° E) is one of the 17 sub counties in Nairobi County, Kenya. It is further divided into 5 wards which are Imara Daima, Kwa Njenga, Kwa Rueben, Pipeline and Kware.

2. Population and Sample

The study targeted men aged 18 years and above in married or cohabiting relationships in Embakasi South, Nairobi County. According to KNBS (2020) Embakasi Subcounty is the most populous part of Nairobi with a population of 988,808 and 195,523 households of which 18,313 households are

in Embakasi South. Kelsey et al. (1996) sample size determination formula was used:

$$\frac{C_x(\pi_1(1 - \pi_1) + \pi_2(1 - \pi_2))}{\pi_1 - \pi_2}$$

Where N is the number of persons required per each group, Where Cx is a constant, which is a function of α and β , μ_1 is the proportion of the first population, μ_2 is the proportion of the second population

$$\frac{7.9(0.42(1-0.42)+0.30(1-0.30))}{0.42-0.30} = 29.862$$

Taken into consideration, Embakasi south has 18,313 households (KNBS, 2015). From previous studies male involvement was 42% after intervention and (30%) without intervention (Matiang'i et al., 2013; Gathuto, 2014). Substituting the figures in the formulae, leads to a sample size of 60 (30 for each site). Ten percent of the sample (10%*60) was added to cater for attrition. The study therefore had a sample of 66 subjects.

3. Study Variables

The independent variables under study were social demographic characteristics, knowledge and attitudes while dependent variables were male involvement and maternal and neonatal outcomes.

4. Operational Definition of Variables

Knowledge was extent to which men know about antenatal care and the benefits of male involvement in antenatal care.

Attitudes was beliefs and perceptions that men have towards antenatal care and their involvement in antenatal care.

Social demographic characteristics was These refer to the age, social economic status and education level.

Male involvement was men taking an active role in protecting and promoting the health and wellbeing of their spouses and children. In this study, it referred to the extent to which men participate in deci-

sions and activities surrounding antenatal care.

Maternal and neonatal outcomes was breastfeeding practices, place of delivery whether hospital or home, attendance of postnatal clinic and vaccination status of the newborn.

5. Study Instruments

The following tools were used to collect data: 1) Questionnaire: A researcher-administered questionnaire was used to collect data. Specifically, the study collected data on the demographic factors, male involvement as well as knowledge and attitudes towards male involvement. The researcher developed the questionnaire. The main aim of the questionnaire was to collect data on knowledge attitude and practices on male involvement of the participants and baseline and at end line.

The researcher hired 6 research assistants. Research assistants were final year nursing students in local universities. Nursing students were preferred because they are familiar with antenatal care and are therefore in a good position to understand the purpose of the study. In addition, they would be able to answer any questions that the subjects may have had. The research assistants assisted the principal researcher in identifying potential subjects, acquiring informed consent and administering the questionnaire. The research assistants were trained on the purpose of the study and ethical principles to be upheld; 2) Checklist: An observation checklist was employed in the post test. The checklist was used to assess neonatal and maternal outcomes such as, skilled birth utilization, neonatal mortality and maternal complications; 3) In-depth interviews:

Qualitative data was collected through 7-10 in-depth interviews lasting between 45-60 minutes each. The in-depth interviews were used to collect data surrounding the

challenges facing male involvement in antenatal care. The interviews were semi structured and will follow a semi-structured guide. These were administered in either Kiswahili or English. The interviews were conducted at the convenience of the study subjects and in line with Covid 19 restrictions. The guide included questions such as “What is the role of men during the antenatal period? How do you feel about accompanying your spouse to the antenatal clinic?”, “do you find the staff friendly?” In-depth interviews can be used to explore concepts for further investigation and thematic analysis.

6. Data analysis

The data was stored in SPSS v24. Data was coded and entered in a password protected computer only accessible to the researcher. Variables in the study were thereafter transformed into binary form. Chi-square was used to find out associations between the various independent variables.

7. Research Ethics

The study sought approval from Selinus University, AMREF ERC, NACOSTI and County Government of Nairobi, Kenya. Participation in the study was voluntary. Participants were required to give consent to be involved in the study. Subjects who met the inclusion criteria were approached and informed of the study.

RESULTS

1. Sample Characteristics

A total of 66 men aged 18 years and above in married or cohabiting relationships in Embakasi South, Nairobi County. Demographic characteristics assessed in the study-included age, level of education, religion, occupation and income of the subjects. Results in Table 1 show that slightly above half (54.5%, n=36) of the subjects were in the 28 to 37 years age group. Results indicate that 36.4%, n=24

had acquired secondary education while 30.3%, n=20 had acquired college education as their highest level of education. The vast majority (95.5%, n= 63) of the subjects were Christians. Slightly less than half of the participants were self-employed while

(36.4%, n=24) were employed. Results show that slightly less than half (42.4%, n= 28) earned between KES 10,001 and KES 25,000 while those who earned less than KES 10,000 comprised (36.4%, n=24) of the participants.

Table 1. Demographic Characteristics of Subjects

Demographic Characteristic	Categories	All (N / %)
Age (years)	18-27	25 (37.9%)
	28-37	36 (54.5%)
	38-47	4 (6.1%)
	48-57	1 (1.5%)
Education	None	2 (3%)
	Primary	7 (10.6%)
	Secondary	24 (36.4%)
	College	20 (30.3%)
Religion	University	13 (19.7%)
	Christian	63 (95.5%)
	Muslim	1 (1.5%)
Occupation	Other	2 (3%)
	Employed	24 (36.4%)
	Self-employed	31 (47)
Income (KES)	Unemployed	11 (16.7%)
	< 10,000	24 (36.4%)
	10,001 - 25,000	28 (42.4%)
	25,001 - 50,000	10 (15.2%)

2. Subjects' Knowledge on ANC

Subjects in the study were asked a series of questions to gauge their knowledge towards antenatal care. The results are presented in this section. Half (50%, n=33) of the participants knew what antenatal services were however, only 31.8% (n=21) knew that ANC should be initiated in the first trimester. Slightly above half 51.5% (n=34) knew that a pregnant woman should make at least 4 ANC visits. Majority (69.7%, n=46) knew of the services provided at the antenatal clinic. Majority (75.8%) also knew of the importance of male involvement in ANC. Slightly above half (59%, n=39) of the participants did not know of the pregnancy danger signs. The vast majority (93.9%, n=62) did not also know of the birth preparedness. In addition, 56% (n=37) were not knowled-

geable on the care of the newborn.

To establish the level of knowledge on antenatal care in the study, scores of items in Table 7 were summed up. The lowest score was 0 while the highest score was 22. The mean score was 12. Subjects with a score of 15 or more were classified as having "high knowledge" while those with 14 or less were classified as having "low knowledge". Results in Table 8 show that slightly above half (57.6%, n=38) of the subjects had low knowledge.

Chi-square tests were conducted to find out associations between demographic characteristics of the subjects and knowledge of ANC. Results in Table 9 show that none of the demographic characteristics was significant.

Table 2. Subjects' Knowledge on ANC

Knowledge	Response	N (%)
Knowledge of ANC	Yes	41(62.1)
	No	25(37.9)
Knowledge of ANC initiation	Yes	28(42.4)
	No	38 (57.6)
Knowledge of number of ANC visits	Yes	34(51.5)
	No	32 (48.4)
Knowledge of importance of male involvement in ANC	Yes	14(21.2)
	No	52(78.8)
Knowledge of ANC services	Yes	30(45.5)
	No	36(54.5)
Knowledge of pregnancy danger signs	Yes	9(13.4)
	No	57(86.4)
Knowledge of birth preparedness	Yes	4(6.1)
	No	62(93.9)
Knowledge of newborn care	Yes	29 (43.9)
	No	37(56.1)

Table 3. Level of Knowledge of ANC

Level of knowledge	All
High	28(42.4)
Low	38(57.6)

Table 4. Association of Demographic Characteristics and Knowledge of ANC

Demographic characteristics	Category	Knowledge		OR	CI 95%		p
		High	Low		Lower limit	Upper limit	
Age	Young	32	29	0.792	0.21	1.881	0.592
	Old	2	3				
Level of education	High	20	13	0.684	0.31	1.201	0.139
	Low	14	19				
Religion	Christian	33	30	0.714	0.404	1.111	0.519
	Non-Christian	1	2				
Occupation	Employed	11	13	0.699	0.222	1.303	0.485
	Unemployed	23	19				
Income	High	4	6	0.774	0.301	1.604	0.429
	Low	30	26				

3. Subjects' Attitudes towards ANC

To establish attitudes towards antenatal care, subjects in the study were asked a series of likert-scale questions related to their perceptions of ANC and perceptions of male involvement. Responses of strongly agree and agree were combined to make agree while disagree and strongly disagree were combined into disagree. Results are

presented in Table 5. Majority (88.3%, n=55) disagreed that issues surrounding pregnancy are a woman's responsibility only. Majority (72.7%, n=48) also disagreed that a man's role is limited to financial support during pregnancy. Majority (65.1%, n=43) also disagreed that they were always busy to the point that they did not have time to accompany their wives to the clinic.

To establish subjects' attitude, scores of items in Table 10 were summed up. Possible scores ranged from 7 to 35. Analysis of scores showed that the minimum score among subjects was 7 and 28 was the maximum. The mean score was 22.1 while the median score was 23. Subjects who

scored 23 and above were "positive attitude" while those who scored 22 and below were classified as having a "negative attitude". Results in Table 6 show that slightly above half (51.5%, n=34) had positive attitudes towards ANC.

Table 5. Subjects' Attitudes towards ANC

Attitude	All (N/ %)	
	Agreed	Disagreed
Issues surrounding pregnancy are a woman's responsibility only	5(7.5)	55(83.3)
A man's role is limited to financial support during pregnancy	18(27.2)	48(72.7)
Accompanying pregnant women to ANC has no benefits	8(12.1)	58(87.8)
Men who accompany their wives to ANC are ridiculed and mocked by their fellow men	9(13.6)	57(86.4)
Nurses and doctors are not welcoming to men in antenatal clinic	13(19.7)	53(80.3)
My wife doesn't like to be accompanied to the clinic	6(9.1)	60(90.9)
I am always busy, I don't have time to accompany my wife to the clinic	23(34.9)	43(65.1)

Table 6. Summary of Attitude towards ANC

Attitude	All (N/ %)
Positive	34 (51.5)
Negative	32 (48.5)

Table 7. Association of Demographic Characteristics and Attitude towards ANC

Demographic characteristics	Category	Attitudes		OR	95% CI		P
		Negative	Positive		Lower limit	Upper limit	
Age	Young	39	22	0.60	0.10	1.11	0.289
	Old	2	3				
Level of education	High	22	11	0.79	0.21	1.40	0.447
	Low	19	14				
Religion	Christian	40	23	0.55	0.21	1.22	0.293
	Non-Christian	1	2				
Occupation	Employed	14	10	0.78	0.11	1.11	0.632
	Unemployed	27	15				
Income	High	5	5	0.71	0.20	1.34	0.391
	Low	36	20				

Chi-square tests were conducted to find out associations between demographic characteristics of the respondents and attitudes towards ANC. Results in Table 7 show that there were no significant associations between demographic characteristics and respondents' attitudes towards

antenatal care.

Table 8 was a significant association (p= 0.048) between knowledge and attitudes. Results showed that subjects with low knowledge were 2.196 times less likely to have positive attitudes.

Table 8. Association of Knowledge of ANC and Attitude towards ANC

Demographic characteristics	Category	Attitudes		OR	95% CI		p
		Negative	Positive		Lower limit	Upper limit	
Knowledge	High	14	20	2.19	1.80	13.20	0.048
	Low	6	26				

DISCUSSION

This study sought to assess the knowledge on ANC among men in Embakasi South Sub County, Nairobi. Results in this study show that slightly above half (57.6%, n=38) of the subjects had low knowledge. The level of knowledge in this study is much lower than that reported by Rahman et al. (2018) who found that two-thirds of husbands in Bangladesh were aware that women have special rights related to pregnancy and childbirth and one-quarter could mention three or more pregnancy-, birth- and postpartum-related danger signs. The level of knowledge reported in this study is also lower than that reported by Narang and Singhal (2013) who found that despite coming to hospital 60.1% were not aware of the components of antenatal care like number of tetanus immunizations or requirements of increased diet during pregnancy. The low knowledge in this sample could be attributed to the low education levels of subjects in this sample. Similarly, it could also be due to lack of antenatal care health messages targeting men.

Chi-square tests showed that there was no association between demographic characteristics of subjects in this study with the level of knowledge on antenatal care. This is similar to results of Galle et al. (2020) where education, age, marital status, place of last delivery and male attendance during ANC were not significant predictors for knowledge of danger signs. However, this result differs with Younas et al. (2020) whereby factors such as the socio-demographic variables, men's level of

education, occupation, number of family members, and history of wife's premature delivery were found to be significantly associated with men's knowledge of ANC. The lack of significant associations in this study may be attributed to the homogenous nature of the sample in this study. The subjects in this study did not differ significantly because they lived in the same urban area wherein majority had similar levels of education, occupation and income.

This study also sought to assess the attitude towards ANC among men in Embakasi South Sub county, Nairobi. Slightly above half (51.5%, n=34) had positive attitudes towards ANC. The result in this study is in agreement with Dumbaugh et al. (2014) who found that some male participants' attitudes towards increasing involvement in new-born care were not conducive to forming equitable, male-female partnerships to negotiate power, authority, and decision making. This is however in contrast to Adewo et al. (2018) study which revealed that 168 (41.5%) male partners in Bishoftu, Central Ethiopia had positive attitudes towards PMCHT services, whereas 237 (58.5%) subjects had negative attitudes in this regard. It is also in contrast to Vermeulen et al. (2016) finding that although men perceived antenatal care as important for pregnant women, most husbands had a passive attitude concerning their own involvement.

There were no significant associations between demographic characteristics and subjects' attitudes towards antenatal care. This is similar to findings of Akinpelu and

Oluwaseyi (2014) study established that men's occupation does not affect their attitude and practice of ANC in Saki metropolis. This differs with Alharbi et al. (2018) findings that the positive mean score for the attitude increased significantly with increasing educational level. It also differs with findings of Dumbaugh et al. (2014) study, which revealed that gender dictates many of the perceptions and politics surrounding new-born care in this context. The lack of significant associations can be attributed to the fact that the study was conducted in a small area where majority of subjects shared demographic characteristics.

There was a significant association ($p=0.048$) between knowledge and attitudes. Results showed that subjects with low knowledge were 2.196 times likely to have positive attitudes. However, this result differs from findings of Akinpelu and Oluwaseyi, 2014; Alharbi et al., 2018; Vermeulen et al., 2016; Younas et al., 2020 who did not find such a relationship.

In conclusion, Slightly above half of men in Embakasi South Sub County, Nairobi had low knowledge. Majority of subjects knew about ANC and number of ANC visits. However, the vast majority had no knowledge on of ANC initiation, importance of male involvement in ANC, ANC services, pregnancy danger signs, birth preparedness or new-born care. An education intervention program ought to be carried out among men in Embakasi South Sub County and other parts of Nairobi and the country. Such a program should not only aim to raise awareness but also to emphasise on male involvement in antenatal care and other maternal health and reproductive services.

Conversely, this study found that slightly above half men in Embakasi South Sub County, Nairobi had positive attitudes

towards ANC. Majority of men did not perceive that issues surrounding pregnancy are a woman's responsibility only. Majority were of the opinion that there are benefits to accompanying pregnant women to ANC. Bi-variate analysis showed that attitudes were predicted by the level of knowledge whereby subjects with low knowledge were 2.196 times likely to have positive attitudes. It is recommended that community health programs build on the positive attitudes towards ANC as found in this study to help improve male involvement in antenatal care and other reproductive health issues.

AUTHORS CONTRIBUTIONS

Fred Kinoti was the main researcher who choose the research topic, collected data, analysed and reported. Dr. Salvatore Fava reviewed the results and the manuscript

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This was a self funded project.

CONFLICT OF INTEREST

There are no conflicts of interest.

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