



International Journal of Research Publication and Reviews

Journal Homepage: www.ijrpr.com ISSN 2582-7421

The Sociodemographic Factors Associated with Timely Initiation of Antenatal Care Among the Pregnant Women Attending Antenatal Clinic at Embu County Referral Hospital, Kenya

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BACKGROUND

The WHO guidelines of 2016 recommend that all pregnant mothers increase the number of contacts with their healthcare providers, from a minimum of four visits to eight contacts during their pregnancy duration. Unfortunately, globally only 64% of pregnant women receive these services for at least four or more visits throughout their pregnancy. Early initiation of antenatal care is vital for the early diagnosis of pregnancy dangers and establishment of preventive and promotive health as well as management of disorders, and necessary referrals. However, sociodemographic factors such as male involvement, level of education, parity and pregnancy intention among others have been found to affect the timing for the first antenatal visit. The aim of the study was therefore to understand the sociodemographic factors associated with timely initiation of antenatal care among the pregnant women attending antenatal clinic at Embu County, referral hospital.

MATERIALS AND METHODS

A health facility-based analytic cross-sectional study was employed together with a mixed methods approach (sequential explanatory mixed methods). Quantitative data was collected initially followed by the gathering and analysis of qualitative data in the next stage. The study population involved all pregnant mothers who sought ANC at the Embu Level 5 Hospital. The minimum required sample size for the proposed study was 247 participants. The sample size was determined using Fischer's formulae since the population was more than 10,000. A systematic random sampling technique was used. The sampling started by selecting a woman at random then every 4th woman in the frame was selected. Structured questionnaires were used for data collection.

Study area

The study was conducted at Embu Level 5 Hospital in Kenya, which is a public training and referral hospital with a capacity of 618 beds and 97 cots.

Study Population

The population under study included all pregnant mothers seeking antenatal care. This department offers services to an average of 30 mothers per day. This results in an average of 600 mothers per month. Most of these clients come from within Embu, Chuka, Mbeere, Kirinyaga and Machakos.

Ethical considerations

Ethical clearance was obtained from the UoN KNH-ERC (KNH-ERC/RR/671). The study was conducted in conformity with the guidelines of the Helsinki declaration.

Data collection tools

Questionnaires with structured questions were administered with the help of four recruited assistants. They contained closed and open-ended questions written in English but were interpreted and explained by the moderator.

Data analysis

The collected data was completed, cleaned and coded. In the analyses, frequencies, percentages, means and standard deviation were used. Descriptive statistics was used to describe and analyze the variables numerically. Qualitative data were transcribed and analyzed manually by themes. The normal standard deviate for a given level of significance was (95%), and the desired level of precision was (0.05). Statistical Package for Social Sciences (SPSS®)

v 22 was used for the data analysis. Results from the quantitative data were correlated using the Pearson moments correlation method. A reliability coefficient of 0.75 was acceptable according to the rule of the thumb if (X it is ≥ 0.70 , the acceptable minimum).

RESULTS

The results indicated that, slightly more than half, (115, 58.1%) were aged between 21-30 years while two of them 2(1%) were aged between 41-50 years. About three quarters (146, 73.7%) of the respondents were married. Slightly more than a quarter, (52, 26.3%) were either single or separated. Less than half (83, 41.9%) had attained at least college or university education, while (17, 8.6%) had no formal education. Most of the respondents (164, 82.8%) were Christians, approximately (24, 12.1%) were Muslims while (10, 5.1%) submitted to other religions. Slightly above half, (102, 51.5%) of the study respondents had one previous pregnancy, while (9, 4.5%) had had 6 and above pregnancies. Additionally, slightly less than half (98, 49.5%) of the respondents had one child while, (1, 0.5%) had 5 children. However, more than a third (70, 35.4%) of the respondents were gravid for the first time. Regarding gestation period, about a third (60, 30.3%) of pregnant women were in their 1st -5th week of gestation, while (6, 3%) were in their 36th -40th week. Less than half of the respondents (90, 45.5%) reported having had complications with their previous pregnancies while (108, 54.5%) reported no previous pregnancy complications. Most (146, 73.7%) of the present pregnancies were planned while a smaller proportion (52, 26.3%) were not.

Table 1: Timely Initiation of ANC

	1 st visit within 12 weeks gestation			
	Frequency	Percent	Valid Percent	Cumulative Percent
NO	61	30.8	30.8	30.8
YES	137	69.2	69.2	100
Total	198	100	100	

Table 2: Relationship between Social demographic Factors and Timely ANC Visit

	Age of the respondents					Total	Chi-square Value	df	P-value
1 st visit in 12 weeks		10-20 years	21-30 years	31-40 years	41-50 years				
	NO	2	34	24	1	61	14.949	3	0.002
	YES	28	81	27	1	137			
	Total	30	115	51	2	198			
Marital status									
1 st visit in 12 weeks		Married	single	Separated/ divorced					
	NO	47	8	6		61	0.644	2	0.725
	YES	99	24	14		137			
	Total	146	32	20		198			
Education level									
1 st visit in 12 weeks		primary	secondary	college/ university	primary				
	NO	4	12	17	28	61	1.324	3	0.724
	YES	13	34	35	55	137			
	Total	17	46	52	83	198			

Religion												
		Muslim	Christian		Others							
1 st visit in 12 weeks	NO	8	51		2			61	0.626	2	0.731	
	YES	16	113		8			137				
	Total	24	164		10			198				
Number of children												
1 st visit in 12 weeks		1	2	3	4	5	None					
	NO	32	4	4	1	1	19	61	7.359	5	0.195	
	YES	66	14	2	4	0	51	137				
	Total	98	18	6	5	1	70	198				
Number of pregnancies												
1 st visit in 12 weeks		1	2	3	4	5	6 & >	none				
	NO	32	14	6	4	1	3	1	61	7.144	6	0.308
	YES	70	25	17	3	2	6	14	137			
	Total	102	39	23	7	3	9	15	198			
Previous pregnancy complications												
1 st visit in 12 weeks		Yes		No						0.711	1	0.399
	NO	25		36					61			
	YES	65		72					137			
	Total	90		108					198			
Pregnancy planned												
1 st visit in 12 weeks	NO	49		12					61	1.977	1	0.16
	YES	97		40					137			
	Total	146		52					198			

Table 3: Binary Logistic regression between Age and Timely ANC Visit

		B	S.E.	Wald	Df	Sig.	OR
Step 1a	Age	-0.951	0.259	13.517	1	<0.001	0.386
	Constant	2.901	0.607	22.84	1	<0.001	18.197
a Variable(s) entered on step 1: age.							

DISCUSSION

As indicated in table 2, there was a statistically significant relationship between the age of the clients and timely initiation of ANC. The odds of making a timely ANC visit was reduced by 61.4% with every increase in age by one year ($p < 0.001$). These findings concurred with a study done in a Northwest Ethiopia health facility whereby mothers of age less than or equal to 25 years were found to be more likely to initiate ANC early, as compared to others (Tesfu et al., 2022). On the contrary, a study done in rural Southern Ghana showed that; the age of a pregnant woman was considerably related with timing of ANC visit amongst primigravidas. In that study, older women tended to start ANC visit in the first trimester as likened to the younger women (Manyeh et al., 2020). This research also found that most of the pregnant women were married and they initiated ANC early. The findings were similar

with a South Africa study which documented that women who were married were more probable to start antenatal care earlier than the unmarried (Ebonwu et al., 2018). However, in this study, there was no significant relationship between marital status and early initiation of ANC. It was the wish of the expectant mothers to be accompanied by their partners to ANC. Lack of support from husbands or partners was associated with late initiation of ANC for both the adolescents and adult women. This was similar to results of a study done in Tanzania, where women who received no support from their spouses or partners started ANC almost three weeks later than those who were supported. (Mgata & Maluka., 2019). Likewise, the uptake of ANC was nearly nine times more for women who reported their husbands' approval for ANC than women whose husbands did not approve (Ali et al., 2018). The findings also noted that there were some linkages between education and antenatal care though not statistically significant. The more literate the women were, the earlier they initiated ANC. Previous studies have exposed that low educational level is connected to reduced uptake of ANC services (Gebremeskel, et al., 2015). More than half of the respondents did not have advanced education. They had either secondary school education or primary level education. They relied on information from their partners, mothers, mothers-in-law and religious leaders among others. This is further, supported by a study done at Mwaluphamba and Kizibe dispensaries in Kwale District in Kenya. The results there revealed that low education level and high parity are some of the factors that affect timely initiation and utilization of ANC (Wekesa et al., 2018). Religious faith was not a major indicator of early initiation and utilization of ANC. This contradicted a study done in the rural and urban setting in South Africa, which reported that psychosocial aspects such as pregnancy desire, religious grounding and partner characteristics e.g. age and education level, were more probable to be linked with timing of ANC initiation, compared to community level measures, like social funding and social capital (Muhwava et al., 2016). The results also contradicted a study done in Malawi that found that; religious opinions influenced a mother's resolve to seek ANC. The pregnant mothers acknowledged that some religious assemblies encouraged their worshippers to get care from the pastoral staff as an alternative to the hospital. These Women were not constantly sure which churches endorsed this message but a number of them assumed the Apostolic and Church of Christ partook in this practice (Roberts et al., 2017). It was noted that the expectant mothers who started their ANC late were less than half of the sampled respondents. Initiating the ANC visits early may have been contributed by the support received from parents, in-laws, friends and partners among other persons. The support may be the reason as to why more than three quarter of the respondents indicated that they had planned their pregnancies and some respondents were aware on when a woman should initiate the first ANC visit. The findings of this study were in line with those by (Nattey et al., 2018) who found that women who had support from husbands, had better outcomes during pregnancy and were probably more likely to initiate ANC early as likened to those who received support from their other family. The planning of pregnancies may have contributed to early initiation and utilization of ANC. Booking of the ANC clinic late may show poor planning and may contribute to wrongly timing of the first antenatal care visit. Previous complications in pregnancies were associated with early initiation of ANC. This was comparable with the (Ali et al., 2020) study that was done among the ANC mothers from the United Arab Emirates which showed that, the educated pregnant mothers and 45 those who had preceding infertility treatment or prior abortions were all more likely to attain apt ANC initiation (Nasloo et al., 2020). This also concurred with a study that was done among the health care givers in a Maternal Obstetrics Units (MOU) and Primary Healthcare Centres (PHC) in Gauteng South Africa. Another study showed that patients' individual factors like having a history of abortions, obstetric complications, and nulliparity are related with early ANC initiation (Jinga, et al., 2019). Most of the women were aware of the specific time they were supposed to start their ANC while another group did not seem to be sure of the starting time. They also had different preference on advisers. Money for transport was mentioned as an economic challenge which seemed a factor of starting antenatal care late. In this regard, there was no enough money to pay for the trips to and from the hospital for ANC services and therefore, some chose to make one or two before delivery which means they started ANC very late. Most men were not able to accompany their spouses for ANC clinics because they were engaged far from home by economic and social activities. Others felt it's the responsibility of a woman to go for ANC clinics while others saw it as a shame to go for such activities. All in all, this study found that 80% of the women received support during their pregnancy.

SUMMARY

Results

There was a statistically significant relationship between the age of the client and initiation of timely ANC clinic. The odds of making a timely ANC visit was reduced by 61.4% with every increase of age by one year (p-value <0.001). This means that the younger the woman was, the higher the probability of timely initiation of ANC.

Limitation of the study

The major limitation of the study was majorly financial constraints, causing the study to take longer than expected.

Conclusion

The study concluded that, of all the sociodemographic factors studied, only age as a social demographic factor had a statistically significant relationship with timely ANC initiation.

Recommendation

There should be an aggressive creation of awareness on the importance of early initiation of ANC as per WHO recommendations by the ministry of health, county government and the community at large. More studies should be done on women's empowerment and early initiation of ANC, and men's perception, involvement and participation in pregnancy and ANC.

Acknowledgement

My appreciation goes to the Embu County and referral hospital management for allowing me to carry out this study there. I also appreciate my family for the continuous support they have accorded me in my career growth. Finally, I appreciate all those who supported me in the data collection

Dedication

I dedicated this study is to my dear mum Florence Muthoni Kinogu, my adoring husband Anthony Muthii Kibuchi and my lovely children Levi Mutugi and Ivy Nyakio

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