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Facility Factors Affecting the Uptake and Utilization of Antenatal Care Services By Pregnant Adolescents in Rongai Sub County, Nakuru County.Kenya

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Abstract

Purpose: Antenatal care plays a crucial role in fostering a sense of trust and rapport between the expectant woman and her healthcare practitioner. It serves as a platform for tailoring health promotion messages to the specific needs of the person, while also facilitating the identification and appropriate management of any maternal problems or risk factors that may arise. Complications arising from pregnancy and childbirth constitute the primary cause of mortality among women aged 15-19 years in poor and middle income nations. The objective of this study was to examine the extent to which adolescent mothers in Rongai Sub County, Nakuru County, Kenya utilize antenatal care services. The researchers obtained ethical permission from the GLUK Ethics committee, NACOSTI, and the Nakuru County Government. In addition, the researchers sought consent from the participants and ensured confidentiality by refraining from utilizing any form of identifying.

Methodology: The research employed a descriptive cross-sectional study design, utilizing purposeful sampling and single population proportion approaches. The target population comprised of adolescent moms between the ages of 15 and 19 within the geographical area of Rongai Sub County. The data collection instruments employed in this study consisted of researcher-administered questionnaires. The survey was distributed to adolescent mothers who satisfied the specified criteria for inclusion. The acquired data underwent coding and was thereafter fed into the computer system for analysis utilizing SPSS version 25.

Findings: The findings of the research were succinctly presented through the utilization of percentages, tables, and charts. There was a significant correlation between adolescents' negative attitudes toward ANC utilization and the results of the study (χ^2 =26.306, p =.002). it was also noted that the relationship between hours of operation and adolescents' uptake of ANC was also significant (χ^2 =25.865, p =.000). Similarly long waiting hours (χ^2 =12.391, p =.054), lack of trust among ANC service providers (χ^2 =127.847, p =.000), and high transport cost (χ^2 =15.169, p =.019), significantly affected adolescents' uptake of ANC services.

Unique Contribution to Theory, Practice and Policy: The findings of this research demonstrate that the utilization of ANC services by adolescent and adult expectant women can offer significant contributions to the understanding of disparities, identification of barriers, and development of appropriate interventions to increase ANC service utilization. It is suggested by this study that tailored services be implemented with the aim of increasing ANC utilization among adolescent mothers in Rongai Sub County.

Keywords: *Antenatal Care Services, Adolescent Health, Adolescent Pregnancy Prevention, Positivism Philosophy.*

Introduction

1. Background of the study

The concept of "prenatal care services" refers to the standard nursing and medical attention that is recommended for pregnant women, as defined by Catling et al. (2015). Prenatal care is commonly recognized as a type of preventive healthcare in which midwives or physicians conduct routine examinations. Prenatal examinations facilitate the detection and control of potential health issues throughout the course of pregnancy, while also encouraging the adoption of health-conscious behaviors that are advantageous for the fetus and the mother (Atuyambe et al., 2008).

A multitude of research endeavors have been initiated to examine the factors that are correlated with the utilization and scope of coverage for ANC services (Chandra-Mouli, Camacho,and Michaud, 2013). However, the majority of prior research efforts have focused on women across all age categories that are reproductive in nature. Unfortunately, insufficient attention has been paid to the attributes linked to the utilization of antenatal care (ANC), particularly among expectant adolescents. The results of the NFHS-4 survey indicate that the proportion of women aged 15 to 49 who received ANC increased significantly by 7% between 2005-2006 and 2015-2016 (IIPS and ICF, 2017). 59% of women who are capable of bearing children underwent their initial ANC examination in the first trimester of their pregnancy, according to data provided by IIPS and ICF (2017). 51% of these women had additionally undergone more than three ANC visits.The aforementioned data is in close accordance with the worldwide ANC coverage rate of 58.6% and is marginally greater than the South Asian ANC coverage rate of 50.0% (Moller, Petzold, Chou, Say, 2017).There are substantial discrepancies in the utilization of ANC services when comparing expectant adolescents to adults of advanced age. Thomas, Harden, and Newman (2012) posit that adult pregnant women are more likely than adolescent expectant women to utilize ANC services. The observed inconsistency may be ascribed to a multitude of socioeconomic and demographic variables, encompassing birth order, parity, education, employment, income, and place of residence. However, the current body of research regarding the utilization of ANC services by adolescent expectant women and the specific challenges they face is quite scant (Singh, Kumar, Pranjali, 2014). An examination of the utilization of ANC services by adolescent and adult expectant women can yield significant knowledge regarding the identification of disparities, barriers, and the development of appropriate interventions to increase ANC service utilization.

According to the Demographic Health Survey of 2008-2009, in Kenya, a minority of expectant women (47%)—including adolescent mothers—attend four or more antenatal visits. The concept of antenatal health seeking behavior among these young mothers motivates them to have a favorable perception of their antenatal maternal health (Kenya Demographic Health Survey 2008-09).

In Kenya, the provision of targeted antenatal care services to pregnant women is facilitated by the Linda mama program, which is offered at no cost. This program encompasses the detection and management of obstetric problems and infections, including human immune deficiency virus (HIV). It also focuses on preventing mother-to-child transmission (PMTCT) of HIV, as well as addressing syphilis and other sexually transmitted illnesses. The program also encompasses many activities such as the administration of prophylaxis for malaria, achieved through intermittent preventive treatment (IPT) with Sulfadoxine-Pyrimethamine (SP), addressing anaemia by providing iron and folate, and administering tetanus toxoid immunization. According to the World Health Organization (2016), it is advised to include all laboratory tests in the initial ANC visit as part of the ANC profile.

According to the World Health Organization (2016), the recommended number of visits for focused prenatal care (FANC) is eight. However, the Kenyan Ministry of Health continues to prescribe a minimum of four visits. A study conducted in western Kenya revealed that a significant proportion (90%) of pregnant women who were part of the study attended the antenatal clinic (ANC) at least once during their most recent pregnancy. However, it was observed that only 36% of these women adhered to the recommended guideline of making their initial ANC visit within the first trimester. Moreover, a substantial body of research indicates that a significant proportion of expectant women continue to opt for home deliveries facilitated by traditional birth attendants (TBA) rather than skilled birth attendants (SBA), as per the suggested guidelines. A study conducted within the designated research region revealed that a significant proportion (80%) of pregnant women opted to give birth in their own homes, with a somewhat smaller percentage (42%) receiving support from traditional birth attendants (TBAs). Additionally, 36% of women were aided by non-professional individuals, while 22% received no assistance throughout the birthing process (Wanjira et.al, 2011).Given the aforementioned discoveries, the primary objective of the present study is to examine the facility factors influencing women's decision to seek antenatal or delivery care from informal healthcare facilities in Nakuru County, as opposed to the majority who opt not to do so.

2. Statement of the problem

World Health Organization (2014) reports that developing countries accounted for 99 percent (284,000) of the estimated 287,000 maternal fatalities that occurred worldwide in 2010. Potentially one of the most efficacious health interventions in the fight against maternal mortality and morbidity is the implementation and assurance of maternal health care service utilization (Birmeta, Dibaba, & Woldeyohannes, 2013).

The 2008-2009 Demographic Health Survey found that in Kenya, a minority of expectant women (47%)—including adolescent mothers—attend four or more antenatal visits. The concept of antenatal health seeking behavior among these young mothers motivates them to have a favorable perception of their antenatal maternal health (Kenya Demographic Health Survey 2008-09).

Despite the implementation of several initiatives, the utilization of antenatal care services remains suboptimal in Nakuru, with a rate of 43%. This figure falls below the national average of 58%. Hence, it is important to conduct a study in order to ascertain the facility factors that influence the adoption of these services. The objective of this study was to investigate the the facility parameters influencing the uptake , utilization and use of prenatal care services among adolescents aged 15-19 years in Rongai Sub County,Nakuru County,Kenya **.**

3 Literature Review

3..1 Theoretical Framework

The present study is informed by the theory of reasoned action (TRA or TORA), a theoretical framework that seeks to explicate the relationship between attitudes and behaviors in human action (Fishbein & Ajzen, 2015). The primary purpose of its use is to forecast the conduct of individuals by analyzing their preexisting behavioral and attitudinal intents. The primary determinant of an individual's decision to engage in a specific activity is the consequences that are anticipated based on their own expectations resulting from the performance of that conduct (Rogers et al., 2002).

In this particular study, the researchers opted to utilize reasoned action theory as a predictive framework for examining the facility factors influencing women's decision to seek antenatal or delivery care from informal healthcare facilities in Rongai Sub County, Kenya.

3.2 Conceptual Framework

According to Chakraborty (2009), the purpose of each piece of research should be to "operationalize" (or put into practice) a set of predetermined concepts or variables. It is the backbone of the study, providing shape and form and securing the logical arrangement of all its constituent parts (Mugenda & Mugenda, 2012). It demonstrates the researcher's understanding of the interconnections among the study's variables (KIM, 2009). The components of a conceptual framework are the independent, dependent, and moderating variables.This study's conceptual framework was formulated using the theoretical foundation and the variables that were measured.Independent variables were-demographic-variables (age,education-level,religion parental, marital, income, planned pregnancy)and facility-variables (Money, attitude, hours of operation, waiting hours,trust and transportation costs) **3.0 RESEARCH METHODOLOGY**

3.1 Research Design and Philosophy

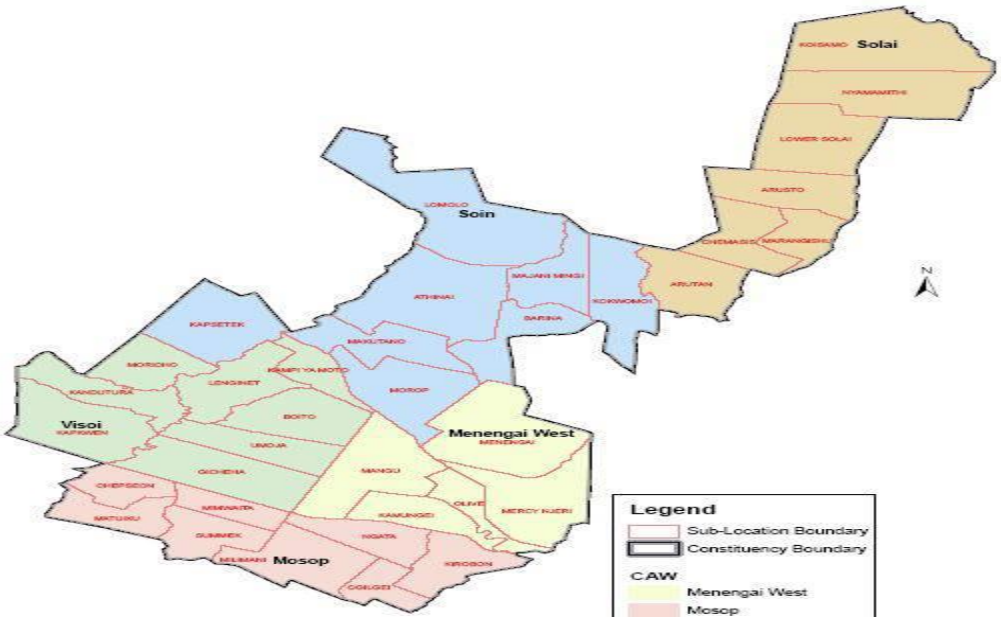
The study adopted the positivist philosophical orientation and descriptive cross sectional research design.

3.2 Location of the study

Brink, van der Walt and Van Rensburg (2012) defined the research setting as a specific place or physical location as well as conditions where the data will be collected by the researcher. The

research was conducted within the jurisdiction of Rongai Sub County, located in Nakuru County, Kenya .as shown in picture 3.2.1

Picture 3.2.1 Rongai Sub County,Nakuru,Kenya



Source*: IEBC maps (2019)* **3.4 Population of the Study**

The study focused on female adolescents aged 15-19 years who were receiving healthcare services in the designated health facilities located in the five wards of Rongai Sub County, inside Nakuru County. The selection of this cohort was based on the heightened incidence of adolescent pregnancy among our nation's equivalent age demographic. One further rationale for selecting this particular age group is the heightened vulnerability of girls within this demographic to engage in intentional or coerced sexual behavior, mostly attributable to the conspicuous physical transformations they undergo.

3.5 Sampling Procedure and Sample Size

The study employed the purposive sampling and single population proportion techniques. The purposive sample strategy was used due to its extensive utilization in qualitative research for the purpose of identifying and selecting examples that contain substantial information pertaining to the phenomenon under investigation (Patton,. 2015). Additionally,the researcher employed the purposive sampling technique in order to pick a specific group of adolescents from the larger population under study.

The sample size of this study was obtained by using the formula for a single population proportion. Where $n = \frac{Za/2)2 \times p(1-p)}{(W)^2}$ estimated Proportion of adolescent who are pregnant will be 50%, a

level of significance 95%, a margin of error 5%, and non-response rate 10%. Where n= Initial sample size

Z= 1.96, the corresponding Z-score for the 95% CI P= Proportion= 50%

W= Margin of error= 5%= 0.05 n= $\frac{(Za)^2 \times p(1-p)}{(W)^2}$ = = $\frac{(1.96)^2 \times 0.58(1-0.58)}{(0.05)^2}$

$$\frac{3.8416 \times (0.58 \times 0.42)}{0.0025}$$

374

Taking non-response rate 10% the final sample size required for this study will be 411.

3.5.1 Recruitment & Training of Research Assistants

A total of five research assistants were selected and provided with comprehensive training on the protocols for administering the research questionnaire. Additionally, they were educated on the importance of risk assessment and the necessary measures to mitigate potential dangers. This was particularly crucial due to the fact that the study population primarily consisted of minors, who require special attention and protection. The recruitment of research assistants was conducted in accordance with academic criteria, including considerations of criminal records, health status, and experience in data collecting, proficiency in the mother tongue, English, and Kiswahili, as well as the ability to effectively engage with adolescent pregnant moms within the specified terms of service. The research assistants who were selected underwent a one-day training session that covered various topics such as questionnaire administration, interview methodologies, population hazards, risk assessment and mitigation, as well as data extraction from the ANC centers. The questionnaire was conducted in the English language and translated into the participants' mother tongue and Kiswahili to ensure impartiality and provided further clarity.

3.6 Data Collection Methods

The research employed questionnaires as the primary tool for data collection, comprising a combination of open-ended and closed-ended inquiries. The research was enhanced by the inclusion of interview guides. The selection of the questionnaire was predicated upon the underlying assumption that it affords respondents the liberty to articulate their perspectives or viewpoints in a more impartial manner. .

3.6.1Data Collection Instruments & Procedures

Questionnaires were utilized as a means of facilitating data gathering. The method of hand delivery and collection of questionnaires were implemented. The responsibility of delivering the surveys was assigned to either the researcher or the research assistants, with the purpose of facilitating required clarifications and resolving any potential ambiguities. Upon delivery, the researcher or

research assistants were allocated a 30-minute time frame for the respondents to provide their responses and select the surveys. This approach helped to minimize the likelihood of respondents disregarding the questionnaire, hence increasing the rate of answer turnover. Saunders et al. (2012) claim that employing hand-delivered, self-administered, and collected surveys can yield a response rate that ranges from reasonable to relatively high. The researcher helped the process of obtaining informed permission, which involved obtaining signatures from potential participants, their parents or guardians, and witnesses. The consent forms were exclusively signed by individuals who were 18 years of age or older. In addition, the researcher was accompanied by a witness. The data collection process involved the use of a pre-tested, structured questionnaire that was administered by an interviewer proficient in the English language. The present survey was derived from the World Health Organization (WHO) and was specifically formulated to assess the sexual and reproductive well-being of adolescents and young individuals. The survey questionnaire utilized in this study was specifically derived from the interview survey questionnaire designed by John Cleland, targeting the younger demographic. All protocols related to the Covid-19 pandemic were strictly followed. It was imperative to keep a minimum social distance of one meter between the interviewers and interviewees. The survey instrument comprised a blend of open-ended and closed-ended questions.

3.7 Data Management

We used frequency distribution tables and percentages to classify the field data we collected after verifying its quality, coding it, and cleaning it. However, the degree of influence of each independent variable on the dependent variable was calculated using simple regression analysis. The coefficients were found to be statistically significant at the 95% level using the p-value and t statistic.

3.7.1. Data analysis

The data that was gathered was inputted into the software Epidata, and subsequent analysis by variables was conducted using the Statistical Package for Social Sciences (SPSS) version 25 for the Windows operating system. Descriptive statistics were utilized to calculate the measures of central tendency (means), dispersion (ranges, standard deviations), and variability (variances). Analytical statistical methods were utilized to conduct tests of statistical significance, employing techniques such as the Chi-Square test, regression analysis, and correlation analysis to examine the link between variables. The findings were displayed through the utilization of tables, graphs, and diagrams

4.0DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Response Rate

The research was carried out using a sample size of 411 pregnant adolescents who were selected by purposive sampling and single proportion population approaches. Among the total sample size of 411 pregnant teenagers, all 411 participants exhibited responsiveness, resulting in a response rate of 100%. The pregnant teens included in the sample were selected from various health facilities in Rongai Sub County. The response rate for this sample is presented in Table 1

Table 1: Response Rate n =411

Strata	Sample Size	Response	Percentage
Demographic Characteristics	411	411	100%
Struggle to get Money	411	411	100%
Bad attitude	411	411	100%
Short hours of operation	411	411	100%
Long waiting hours	411	411	100%
Lackoftrustamong ANC service providers	411	411	100%
High transportation cost	411	411	100%
Total	2877	2877	100%

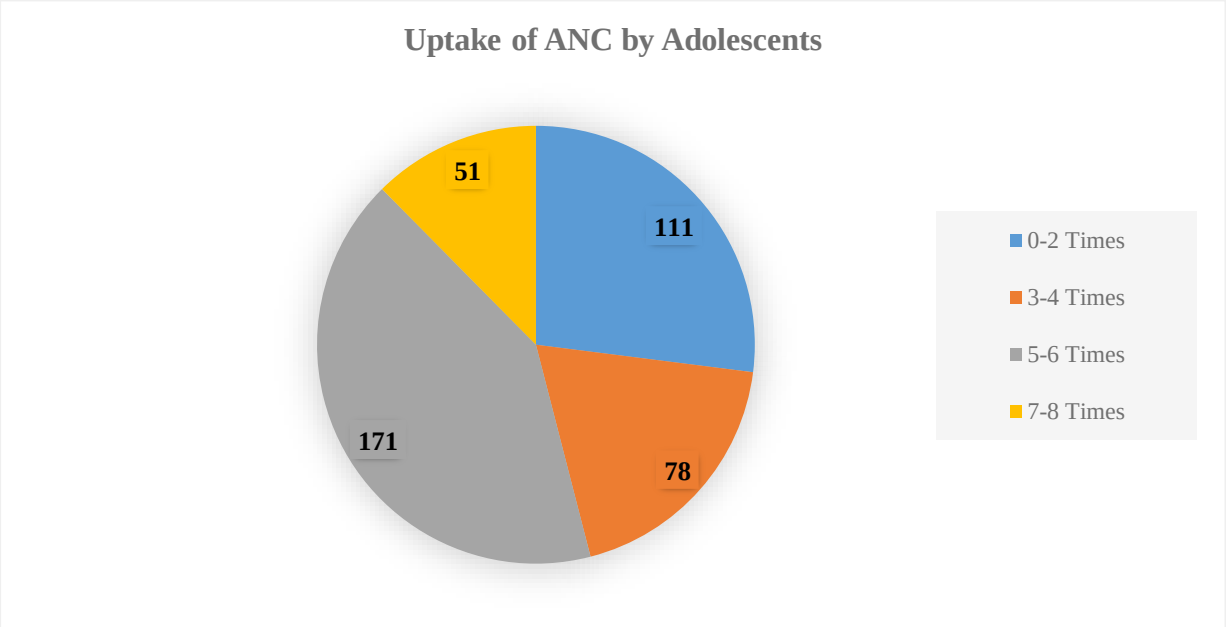
The response with a rating of 100% is considered to be excellent. According to Mugenda and Mugenda (2003), a response rate of 50% may be seen as satisfactory, while a response rate of 60% can be deemed as favorable. Furthermore, a response rate of 70% or higher can be classified as highly commendable. Hence, the study's 100% response rate was deemed sufficient for analysis. Babbie (2004) suggests that a return rate of 50% is deemed acceptable for analysis and publication, while rates of 60% and above are considered good and very good, respectively. The researcher achieved a high response rate by employing a method of contacting respondents through phone calls and engaging key individuals such as in-charge nurses, community health volunteers, community health assistants, and chiefs. These individuals were approached prior to the data collection process and were requested to complete the questionnaires at the ANC facility centers. The roster and contact information of the pregnant teenagers were acquired from the Health Facilities, Community Health Assistants, and Community Health Volunteers in the Rongai region.

4.3 Social Demographic characteristics of Respondents

A total of 411 respondents (response rate 100%) had participated in this study. Of 411 respondents, Majority of the respondents were 18 years old with a percentage of 33.6% (138) followed by those who were 17 years 24.8% (102),16 years21.7% (89) and the minority being those who were 19 years old 10.2% (42) followed closely by 15 years old 9.7%(40). Considering their educational background, those in secondary school had the highest number 85.2% (350), primary 7.3% (30), college 6.1% (25) and those in Universities being the least with 1.5% (6). Christians were 94.89% (390) having the highest number while the Muslims were 5.11% (21). 94.89% of the respondents'

parents were alive, 5.1% (21) of the respondents were not alive, also 96.84% (398) of the adolescent girls were not married while 3.2% (13) were married. Majority of the respondents had no source of income 96.11% (395) while 3.89% (16) having a source of income. Unplanned pregnancy were the highest with at 97.32% (400) compared to the planned pregnancy 2.7%(11). Considering the gestation period, most girls were in the first trimester (48.66%), then second trimester (36.5%) and the third trimester having the least number (14.84%). Regarding the Uptake of ANC among pregnant adolescents, the results indicated it was low with only 19 % (19/411) who were able to meet the UN recommended uptake of at least 8 times in the entire period. A larger proportion of 42% (171/411) had only between 5-6 times uptake of ANC services as shown in figure3.3

Figure1: Uptake of ANC by Adolescents



However, the largest number among the adolescents who met the recommended threshold of ANC, (47) 11.4% were aged 18 years, (48) 11.7% were in secondary school and (51) 12.4% had no income as shown in Table 3.3 .

Table 3: ***Demographic Characteristics of Pregnant Adolescents***

Variable		Adolescents' Uptake of ANC O-2 Times	3-4 Times	5-6 Times	7-8 Times	Total
Age	15 Years	(39) 9.5%	(1) 0.2%	(0) 0.0%	(0) 0.0%	(40) 9.7%
	16 Years	(57) 13.9%	(29) 7.1%	(2) 0.5%	(1) 0.2%	(89) 21.7%
	17 Years	(6) 1.5%	(30) 7.3%	(66) 16.1%	(0) 0.0%	(102) 24.8%
	18 Years	(3) 0.7%	(11) 2.7%	(77) 18.7%	(47) 11.4%	(138) 33.6%
	19 Years	(6) 1.5%	(7) 1.7%	(26) 6.3%	(3) 0.7%	(42) 10.2%
	Total	(111) 27.0%	(78) 19.0%	(171) 41.6%	(51) 12.4%	(411) 100.0%
Education	Primary	(29) 7.1%	(1) 0.2%	(0) 0.0%	(0) 0.0%	(30) 7.3%
	Secondary	(79) 19.2%	(75) 18.2%	(148) 36.0%	(48) 11.7%	(350) 85.2%
	College	(3) 0.7%	(2) 0.5%	(17) 4.1%	(3) 0.7%	(25) 6.1%
	University	(0) 0.0%	(0) 0.0%	(6) 1.5%	(0) 0.0%	(6) 1.5%
	Total	(111) 27.0%	(78) 19.0%	(171) 41.6%	(51) 12.4%	(411) 100.0%
Religion	Christian	(111) 27.0%	(76) 18.5%	(155) 37.7%	(48) 11.7%	(390) 94.9%
	Muslim	(0) 0.0%	(1) 0.5%	(16) 3.9%	(3) 0.7%	(21) 5.1%
	Total	(111) 27.0%	(78) 19.0%	(171) 41.6%	(51) 12.4%	(411) 100.0%
Parent	Yes	(111) 27.0%	(76) 18.5%	(155) 37.7%	(48) 11.7%	(390) 94.9%
	No	(0) 0.0%	(1) 0.5%	(16) 3.9%	(3) 0.7%	(21) 5.1%
	Total	(111) 27.0%	(78) 19.0%	(171) 41.6%	(51) 12.4%	(411) 100.0%
Marital	Yes	(0) 0.0%	(1) 0.5%	(8) 1.9%	(3) 0.7%	(13) 3.2%
	No	(111) 27.0%	(76) 18.5%	(163) 39.7%	(48) 11.7%	(398) 96.8%
	Total	(111) 27.0%	(78) 19.0%	(171) 41.6%	(51) 12.4%	(411) 100.0%
Income	Yes	(16) 3.9%	(0) 0.0%	(0) 0.0%	(0) 0.0%	(16) 3.9%
	No	(95) 23.1%	(78) 19.0%	(171) 41.6%	(51) 12.4%	(395) 96.1%
	Total	(111) 27.0%	(78) 19.0%	(171) 41.6%	(51) 12.4%	(411) 100.0%
Planned Pregnancy	Yes	(11) 2.7%	(0) 0.0%	(0) 0.0%	(0) 0.0%	(11) 2.7%
	No	(100) 24.3%	(78) 19.0%	(171) 41.6%	(51) 12.4%	(400) 97.3%
	Total	(111) 27.0%	(78) 19.0%	(171) 41.6%	(51) 12.4%	(411) 100.0%

4.3.1 Facility parameters influencing the utilization and use of prenatal care services among adolescents aged 15-19 years.

A multinomial logic regression was conducted to establish the extent of association between facility factors and adolescent pregnancy. Chi-square technique was used to arrive at the degree of association between the factor variables and adolescents' utilization of ANC. Adolescent who had the least uptake of ANC (0-20) strongly agreed (25%) that the hours of waiting affected them in using the ANC services. The hours of wait were minimal among adolescents with higher uptake

of ANC as indicated by only 2% who strongly agreed that they were affected by hours of wait as shown in Figure.2.

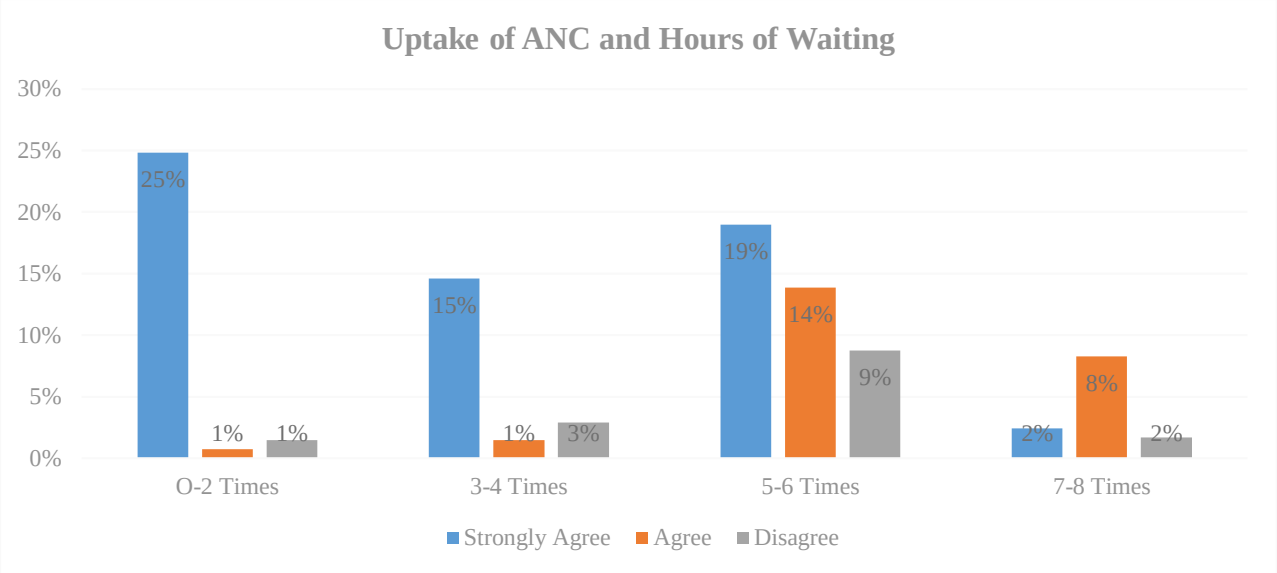


Figure3. 1: ***Uptake of ANC and Hours of Waiting***

Lack of trust in ANC service providers was associated with low uptake of ANC by adolescents as 23% of the adolescents strongly agreed to the fact. Among adolescents with high uptake of ANC, only 2% strongly disagreed that lack of trust affected them in utilization of ANC services as indicated in Figure 3.

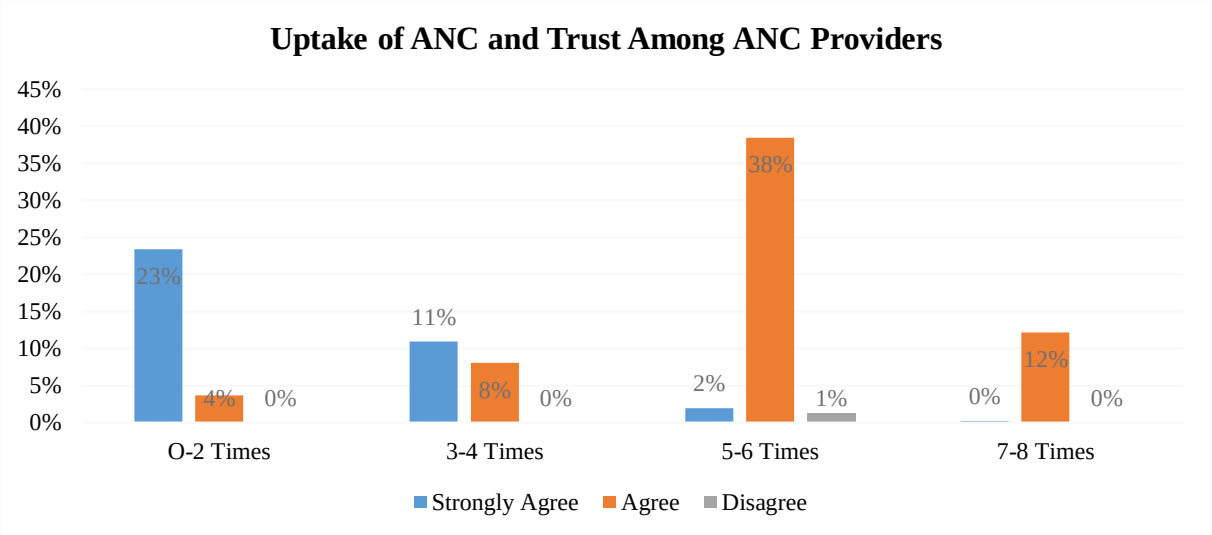


Figure3: ***Uptake of ANC and Trust Among ANC Providers***

There was significant association between bad attitude towards ANC utilization by adolescents (χ^2 =26.306, p =.002). The relationship between hours of operation and adolescents' uptake of ANC was also significant (χ^2 =25.865, p =.000). Similarly long waiting hours (χ^2 =12.391, p =.054), lack of trust among ANC service providers (χ^2 =127.847, p =.000), and high transport cost (χ^2 =15.169, p =.019), significantly affect adolescents' uptake of ANC services as shown in Table 4.4.

Table4: ***Factors affecting Uptake of ANC Services among Adolescents***

Variable	Chi-Square	df	Sig.
Intercept	.000	0	.
Struggle to get Money	3.430	3	.330
Bad attitude	26.306	9	.002
Short hours of operation	25.865	6	.000
Long waiting hours	12.391	6	.054
Lack of trust among ANC service providers	127.847	6	.000
High transportation cost	15.169	6	.019

5.0 DISCUSSIONS OF THE FINDINGS

5.1 Social Demographics

5.1.1 Social demographics characteristics

Based on the data that was collected and afterwards evaluated in the present study, it was observed that a significant majority, specifically over three quarters, of the participants were from Rongai Sub County. This highlights the significance of the geographical proximity of health institutions providing ANC services to the localities of the participants. These findings are consistent with previous studies conducted by Pucioseck *et .al.* (2013), Paredes *et al*. (2005), and Nepal (Say & Raine, 2007), which have also identified the influence of characteristics such as area of residence, distance, and closeness on the utilization of ANC services. The utilization of ANC is negatively correlated with the distance to the health facility (Glei, Goldman, & Rodríguez, 2003a). A study conducted by Magadi et al. (2004) in Kenya revealed a correlation between an increase in proximity to healthcare facilities and a decrease in the number of prenatal visits. Furthermore, research undertaken in Zimbabwe (Banda, 2013) and Pakistan (Mumtaz & Salway, 2005) have identified other obstacles to the adoption of antenatal care (ANC), including inconvenient transportation, inadequate road infrastructure, and challenges associated with crossing large rivers.Certain cultural attitudes have been discovered to impact the utilization of antenatal care (ANC). The research conducted by Simkhada et al. (2008) in Nepal revealed that the presence of mother-in-laws had a detrimental impact on the utilization of ANC services by their daughter-in-laws.In a study conducted in Taiwan, Lee et al. (2009) discovered that the decisions regarding the location and necessity of antenatal care are significantly influenced by both the mother-in-law and the spouse. The inclusion of males as partners is a crucial element of antenatal care (ANC), yet their participation has been limited.

The analysis revealed that all social demographic factors exhibited statistical significance (p-value < 0.05), with the exception of the source of income variable (p-value = 0.499 > 0.05).This study contradicted the findings of Alice (2012), who claimed that adolescent girls between the ages of 15-19 experience early-stage unplanned pregnancy& financial challenges. At this particular stage of development, young females may not possess the requisite physical and emotional preparedness to undertake the obligations associated with parenthood. The issue at hand does not solely pertain to girls, but rather it has far-reaching implications for the entire society. For example, when adolescent females experience pregnancy, it simultaneously impacts their physical well-being, educational opportunities, emotional state, social interactions, and the future trajectory of society. The burden of [specific issue] has a significant impact on the lives of families, leading to many challenges such as compromised health and financial instability. The findings suggest that all adolescent girls between the ages of 15, 16, and 17 experienced unintended pregnancies, whereas among those who were 18 years old, 71.79% had unplanned pregnancies and 28.21% had planned pregnancies. In line with the research conducted by Chakole et al. (2022), it is evident that teenage pregnancy has significant adverse social and medical implications for the health of both mothers and children on a global scale. In contrast to adult primigravida, young women have a higher incidence of adverse perinatal outcomes, including preterm deliveries, neonatal mortality, stillbirths, and the delivery of infants with low birth weight.

The age range investigated in this study aligns with prior research by Kefale, Yalew, Damtie, and Adane (2020) , wherein the majority of adolescent pregnancies typically transpire at approximately 17 years of age, but a lesser proportion of teenage pregnancies manifest as early as 19 years of age. The p-value for age was found to be 0.000, which is less than the predetermined significance level of 0.05. This suggests that there is a statistically significant link between age and pregnant status. Similarly, it was observed that all instances of adolescent pregnancies occurring in primary and secondary schools were unplanned, whereas those occurring in Universities were found to be planned. A significant majority, namely 80%, of pregnancies among college-aged individuals were found to be unplanned, with the remaining 20% being intentionally planned. Nevertheless, the research findings indicated that there was not a statistically significant correlation between the degree of education and the utilization of ANC services. This finding presents a contrasting perspective to previous research, such as an Ethiopian study which posited that education may enhance women's autonomy, fostering increased self-assurance and decision-making capabilities pertaining to their own health. According to Regassa (2011), there is a strong possibility that women with greater levels of education are inclined to pursue services of superior quality and possess enhanced capabilities to effectively employ health services that offer superior treatment. According to a study conducted by Emelumadu et al. (2014), there is evidence to suggest that increased levels of education have a positive impact on the utilization of ANC services among women within the reproductive age range of 15 to 49 years. Nevertheless, due to the limited capacity of adolescent girls to independently make decisions and their insufficient development of

self-assurance and decision-making skills about their own health, no correlation was found between the extent of utilization of ANC services and their educational attainment.

In terms of the religious affiliation of the respondents, it was found that 47.62% of individuals identifying as Muslims experienced unplanned pregnancies, while 52.38% reported having planned pregnancies. All individuals who identified as Christians experienced unwanted pregnancies. All respondents who reported having living parents experienced unintended pregnancies, however those respondents whose parents were deceased did not. Approximately 47.62% of individuals experienced unplanned pregnancies, while the remaining percentage had planned pregnancies. Among the individuals who were married, 84.62% reported having planned marriages, whereas among those who were not married, all reported experiencing unplanned pregnancies. Among individuals who experienced pregnancy during their first trimester, 94.5% reported that their pregnancy was unplanned. Similarly, all individuals who were in their second and third trimester of pregnancy indicated that their pregnancies were unexpected. The majority of adolescent girls who became pregnant (n= 211) did not experience any health issues during their pregnancy. Among those who did have health concerns, 94.5% said that their pregnancy was unplanned. The present findings are in opposition to the conclusions drawn by Alice (2012), whose research indicated that medical issues pose a significant concern and have adverse consequences for pregnant women. The author observed that in the majority of developing nations, there is a lack of education among young females regarding self-care during periods of high pregnancy rates. Moreover, they did not actively pursue sufficient medical attention during the course of their pregnancy. Numerous adolescent females encountered various challenges, including anemia, toxemia, high blood pressure, placenta previa, and early birth of the infant, throughout the course of their teenage pregnancies.

5.3 Facility Factors Affecting the Uptake and Utilization of Antenatal Care Services by Pregnant Adolescents

The study found that all of the participants unanimously acknowledged that financial constraints posed a significant obstacle in their pursuit of antenatal care services for their unintended pregnancies within their community. This assertion was substantiated by the statistical results of the research, which revealed that all respondents who expressed a "strong agreement" or "agreement" with the statement regarding difficulties in obtaining funds for their clinic also reported experiencing unexpected pregnancies. All individuals who did not experience financial difficulties with clinic expenses had intentionally planned their pregnancies, with a statistically significant association (p-value < 0.05). These findings align with the previous studies conducted by Kasabiiti (2007), which suggested that there is a substantial correlation between a woman's ability to financially afford prenatal care (ANC) services and the frequency of her ANC visits. This finding aligns with previous research indicating that factors such as the need for transportation to access antenatal care facilities, the high cost of laboratory tests, medications, and consultation fees

in private centers not supported by government hospitals, act as barriers to the utilization of maternal services, as emphasized by Atuyambe et al. (2008). Despite the absence of a statistically significant correlation between affordability and the extent of prenatal care consumption as seen in their study, these findings suggest a reluctance among women to bear the financial burden associated with accessing ANC services.

However, the findings of this study revealed that a majority of pregnant teenagers encountered negative attitudes from health staff, with 73.5% of the entire pregnant adolescent population reporting such experiences. Among the respondents who expressed disagreement with having encountered negative attitudes, it was observed that 92.67% experienced an unplanned pregnancy, whereas 7.33% reported having a planned pregnancy. This finding was statistically significant, as shown by a p-value of less than 0.05.This study aligns with the conclusions drawn by Banda (2013), who determined that consistent utilization of antenatal care services is crucial for fostering trust and rapport between pregnant women and their healthcare providers, hence influencing their attitudes.The user's text lacks academic tone and structure. In a similar vein, all of the participants who indicated that they encountered limited operating hours reported having an unintended pregnancy. Conversely, among those who disagreed with this statement, 84.51% experienced an unplanned pregnancy, while 15.49% reported having a planned pregnancy. This finding is statistically significant, as indicated by a p-value of less than 0.05. In light of the duration during which the respondents awaited assistance, it was observed that all individuals who expressed agreement with the notion of experiencing a prolonged waiting period also reported instances of unintended pregnancy. This finding was consistent with his study, in contrast to a study conducted by Mngadi et al. (2002), which found that a significant barrier to accessing antenatal care is the vast distance to the antenatal care facility. The present study presents a contrasting perspective to the findings of Mlilo-Chaibva (Chaibva, 2009), who posited that poverty is a significant social determinant contributing to the underutilization of healthcare services, especially antenatal care (ANC). Among the respondents who expressed dissent on the perceived delay in receiving assistance, a majority of 81.47% reported experiencing an unplanned pregnancy, whilst 18.03% reported having a planned pregnancy. This disparity was found to be statistically significant, as shown by a p-value of less than 0.05.Individuals who expressed a "strong agreement" regarding their lack of trust in ANC service providers. All individuals in the study experienced unplanned pregnancies, and those who expressed agreement also reported a lack of trust in ANC providers. Approximately 97.66% of the participants experienced unplanned pregnancies, and the remaining 2.34% reported having planned pregnancies. All individuals who had complete confidence in ANC providers had intentionally conceived their pregnancies, with statistical significance (p-value < 0.05).The data indicates that a significant majority of individuals (96.66%) who expressed a strong agreement with the notion of high transportation costs experienced unintended pregnancies, whereas a minority (3.23%) reported having planned pregnancies. Among the participants who

expressed complete disagreement, it was found that all of them had intentionally conceived their pregnancies (p-value < 0.05).

In conclusion, the study determined that there exists a notable correlation between facility-related characteristics and the occurrence of adolescent pregnancy. The veracity of this claim is supported by the observed utilization of ANC services among pregnant adolescents. The Chi-square method was employed to determine that there was a significant level of correlation between the component variables and the consumption of ANC services among adolescents. The study incorporated several factor variables, namely financial difficulties, negative attitudes, limited operating hours, extended waiting times, lack of trust within ANC service providers, and high transportation costs, in relation to the utilization of antenatal care services by adolescents.

6.0 SUMMARY, CONCLUSION, RECOMENDATION

6.1 Summary of the Findings

The first objective of the study was to determine the facility parameters influencing the uptake ,utilization and use of prenatal care services among adolescents aged 15-19 years. Study variables in this sub theme were money, attitude, hours of operation, waiting hours, trust & transportation cost.A multinomial regression was conducted to establish the extent of association between facility factors and adolescent pregnancy. Chi-square technique was used to provide the overall effect of variables and arrive at the degree of association between the factor variables and adolescents' utilization of ANC.The findings indicated that there was a significant association between bad attitude towards ANC utilization by adolescents (χ^2 =26.306, p =.002). it was also noted that the relationship between hours of operation and adolescents' uptake of ANC was also significant (χ^2 =25.865, p =.000). Similarly long waiting hours (χ^2 =12.391, p =.054), lack of trust among ANC service providers (χ^2 =127.847, p =.000), and high transport cost (χ^2 =15.169, p =.019), significantly affected adolescents' uptake of ANC services.

6.2 Conclusion

The study concludes that there was a significant association between bad attitude towards ANC utilization by adolescents (χ^2 =26.306, p =.002). It was also noted that the relationship between hours of operation and adolescents' uptake of ANC was also significant (χ^2 =25.865, p =.000). Similarly, long waiting hours (χ^2 =12.391, p =.054), lack of trust among ANC service providers (χ^2 =127.847, p =.000), and high transport cost (χ^2 =15.169, p =.019), significantly affected adolescents' uptake of ANC services. Lastly the respondents who had the least uptake of ANC experienced health problems and stigmatization when they were pregnant

6.3Recommendations

The following recommendations were presented to mitigate-facility factors affecting the uptake and utilization of antenatal care services by pregnant adolescents**:**

1) This study generated evidence that there is dire need to strengthen prenatal service uptake campaigns. The study therefore recommends that uptake of ANC services should be improved and through effective community mobilization. That such mobilization be considered for inclusion in the efforts of up scaling maternity outreach services to educate, and improve awareness of the importance of ANC services.in Rongai Sub County. The MOH at Rongai county level should therefore align programs for public health promotion
2) Prenatal service Uptake should be included in the health promotion component of adolescent health. The use of MOH stakeholders in up scaling prenatal service uptake in low-resource places like Rongai Sub County is a cost-effective strategy for the improvement for the teen populations.
3) These will be deliberate efforts towards increasing human resource capacity for provision of prenatal service services within health facilities in the Sub County. Short courses to emphasize and sensitize healthcare workers on challenges faced by pregnant teens and prompt referral should need arise.
4) This study recommends the development of teen friendly prenatal service information for dissemination by MOH officials to pregnant teens in designated places. Information should include self-care packages for pregnant teens and integrate self-care into relevant activities in the teen pregnancy management programs.

6.3.2 Recommendation for Further Research

1) Further research should examine the studies on challenges of uptake ANC services in averting psycho social disorders associated with adolescent pregnancies in Rongai Sub County.
2) That these findings be further confirmed using an experimental (case-control) design using the case-control design for credibility of findings

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