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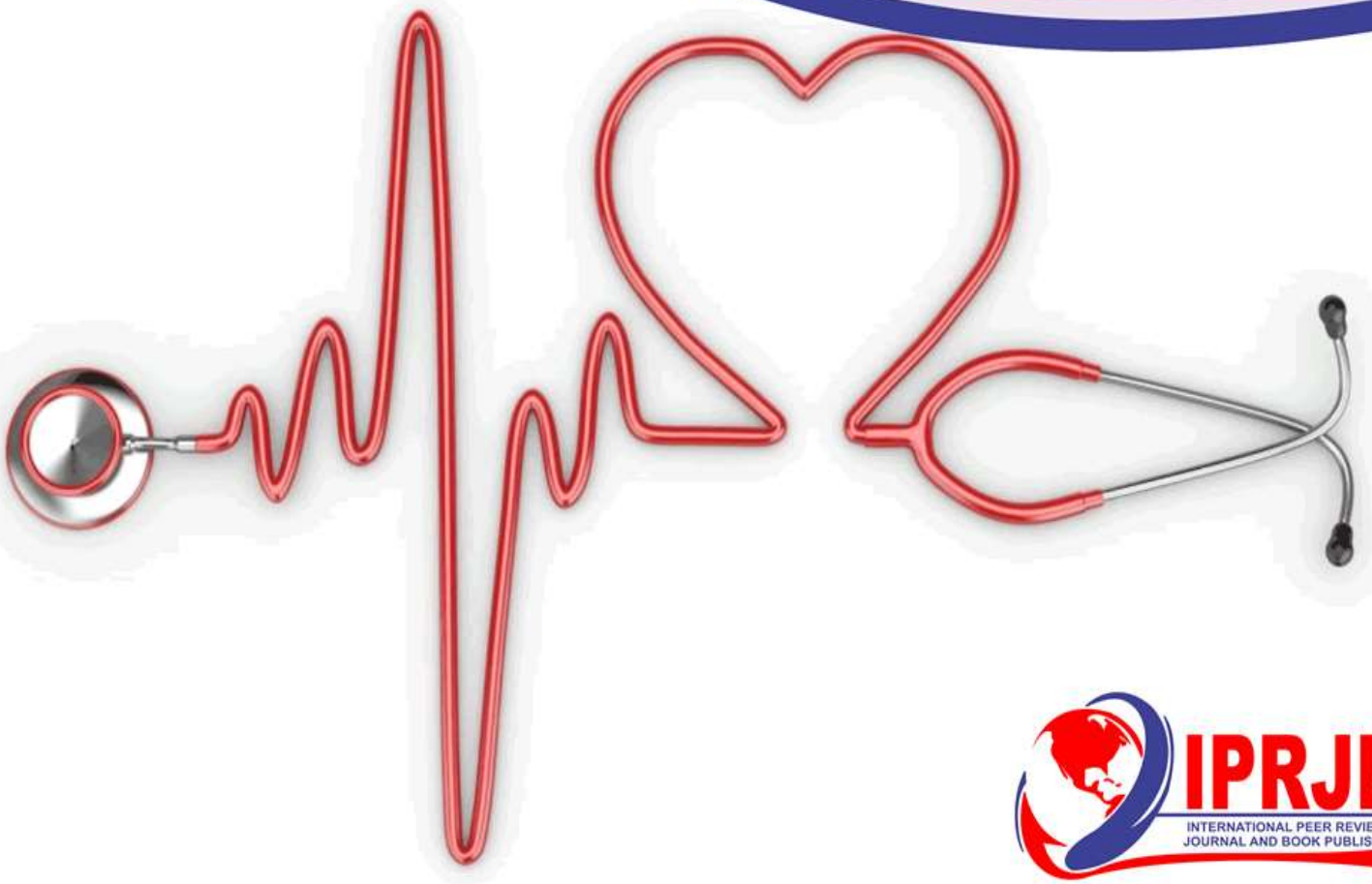

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Factors Associated With Male Partner Attendance in Antenatal Care Services in Gakenke District

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Abstract

Purpose: Comprehensive maternal health is hampered by the extremely low rates of male antenatal care (ANC) participation in rural Rwanda. Factors related to male participation in ANC services in Gakenke District were examined in this study.

Methodology: Structured questionnaires were used to survey 235 women who were attending antenatal care. Descriptive statistics, logistic regression, and chi-square tests were used to analyze the data.

Findings: Limited male engagement was indicated by the fact that only 35.3% (95% CI [0.29 - 0.42]) of respondents said they were accompanied by their male partners. Age and marital status did not significantly correlate with ANC attendance. However, education turned out to be a significant predictor: men with primary or secondary education were less likely to attend, whereas those with higher education were significantly more likely to do so (AOR = 2.80, p =0.025). Strong sociocultural influences were also present: male involvement was significantly increased by peer encouragement (AOR = 4.74, p <0.001) and supportive community norms (AOR = 4.56, p <0.001), while family and friend influence were not statistically significant. Self-employment increased participation among socioeconomic variables (AOR = 3.59, p <0.001), whereas full-time and part-time employment had a negative correlation. Institutional support was important; men who were exposed to community programs that promoted male involvement (AOR = 4.10, p <0.001) and those who were encouraged by healthcare providers (AOR = 2.20, p =0.011) were significantly more likely to attend.

Unique Contribution to Theory, Practice and Policy: Male partner attendance in antenatal care services in Gakenke District is low but influenced positively by higher education, supportive community norms, peer encouragement, self-employment, and institutional outreach. Addressing educational gaps, transforming sociocultural norms, and strengthening health system efforts through targeted interventions are essential to increase male involvement. Enhancing male participation in ANC is critical to improving maternal and child health outcomes in rural Rwanda.

Keywords: *Male Partner Attendance, Antenatal Care Services, Paternal Involvement, Maternal Health*

JEL Codes: *I10, I12, I18, J13, J16*

INTRODUCTION

Antenatal care (ANC) is a cornerstone of maternal and child health, providing essential services that monitor and promote the well-being of both mother and fetus throughout pregnancy (Kazimili & Mweya, 2023). Globally, the World Health Organization (WHO) recommends a minimum of eight ANC visits to optimize maternal and neonatal outcomes (WHO, 2023). Increasingly, male partner involvement in ANC is recognized as a vital factor in enhancing maternal health behaviors, improving adherence to ANC schedules, and promoting positive pregnancy outcomes (WHO, 2017; Alemi et al., 2021). Despite this, male attendance at ANC remains consistently low in many regions, driven by deep-rooted socio-cultural norms, limited awareness, and gender dynamics that often exclude men from reproductive health discussions (Degefa et al., 2019; Muia et al., 2022).

In sub-Saharan Africa, where maternal and neonatal mortality rates remain high, male engagement in ANC is seen as a critical intervention to improve maternal health outcomes (Akinyemi & Ibrahim, 2024). However, barriers such as patriarchal social structures, low male health literacy, and logistical challenges continue to limit their participation (Muia et al., 2022). Many countries have responded by implementing community-based education programs, male-friendly ANC services, and policies aimed at transforming gender norms and encouraging male inclusion in maternal health care (Beraki et al., 2023).

Rwanda has made notable progress in expanding access to comprehensive ANC services through supportive government policies (MINISANTE, 2022). Yet, male partner attendance remains suboptimal, constrained by cultural beliefs that view reproductive health as a woman's domain and a lack of targeted health education for men (Uhawenimana et al., 2021). The Ministry of Health has launched initiatives to integrate men into health education and promote couple-centered ANC visits, recognizing that male involvement is crucial for advancing maternal and child health goals (MINISANTE, 2022).

Given these dynamics, understanding the factors that influence male partner attendance in ANC is vital for tailoring effective interventions. This study focuses on Gakenke District, providing context-specific evidence to inform policies and programs that enhance male engagement in antenatal care services in Rwanda, ultimately contributing to improved maternal and neonatal health outcomes.

LITERATURE REVIEW

Theoretical Review

Prevalence of Male Partner Attendance in Antenatal Care

The prevalence of male partner attendance in antenatal care refers to the prevalence of male partners who accompany their pregnant spouses or partners to antenatal care appointments (Forbes, et al., 2018). It is a measure of the extent to which men are actively involved in supporting maternal health during pregnancy. A higher prevalence indicates greater male participation in antenatal care services, while a lower prevalence suggests that fewer men are engaged in this aspect of maternal healthcare (Kazimili & Mweya, 2023).

The implications of the prevalence of male partner attendance in antenatal care are multifaceted. Firstly, a higher prevalence signifies increased social support for pregnant women, which has been associated with better maternal and neonatal health outcomes (Degefa, et al., 2024). When men attend antenatal care appointments with their partners, they can provide emotional support, assist in decision-making regarding pregnancy care, and contribute to a

more positive pregnancy experience for women. Additionally, male involvement in ANC can facilitate better communication between couples regarding pregnancy-related issues, leading to improved health-seeking behaviors and adherence to ANC guidelines (Nesane & Mulaudzi, 2024).

Furthermore, a higher prevalence of male partner attendance in antenatal care can have broader public health implications. It signifies progress towards achieving gender equity in healthcare decision-making and reflects a shift towards more inclusive health services (Ibnu & Asyary, 2022). By actively involving men in antenatal care, health systems can capitalize on additional opportunities to promote family planning, HIV testing and counseling, and other essential health interventions (Degefa, et al., 2024). Ultimately, increasing the prevalence of male partner attendance in antenatal care contributes to more comprehensive and holistic maternal healthcare, leading to improved maternal and child health outcomes (Assaf & Davis, 2018).

Social Demographic Factors and Male Partner Attendance in Antenatal Care

Social demographic factors, such as age, education level, employment status, and income, significantly influence men's attendance at antenatal care services. Younger men and those with higher education levels tend to be more aware of the benefits of antenatal care and are more likely to participate in these services. Their understanding of modern healthcare practices often motivates them to support their partners during pregnancy. In contrast, older men or those with lower educational attainment may lack this awareness, leading to lower participation rates (Bamidele, et al., 2022).

Employment status and income are crucial determinants of men's involvement in antenatal care. Men with stable jobs and higher income levels are more likely to accompany their partners to antenatal care visits because they can afford the time and resources required for such activities (Assaf & Davis, 2018). In contrast, men working in low-paying jobs or informal sectors might face difficulties in taking time off work, thereby reducing their attendance at antenatal care services. The financial burden associated with healthcare can also be a significant barrier, as men with lower incomes might prioritize other expenses over healthcare services (Bishwajit, et al., 2017).

Marital status also significantly impacts men's participation in antenatal care. Married men are generally more likely to attend antenatal care services with their partners compared to those who are unmarried or in less stable relationships (Mamo, et al., 2021). The commitment inherent in marriage often translates into greater involvement in all aspects of family health, including antenatal care. On the other hand, unmarried men or those in less stable relationships may not feel the same level of responsibility or might face societal pressures that discourage their participation in antenatal care. Efforts to promote the importance of shared responsibility in maternal health across all types of relationships can help increase men's attendance at antenatal care services (Ibnu & Asyary, 2022).

Social Demographic Factors and Male Partner Attendance in Antenatal Care

Socio-cultural factors influencing men's participation in antenatal care encompass a range of societal norms, beliefs, and practices that shape male attitudes and behaviors regarding pregnancy and healthcare involvement (Mamo, et al., 2021). These factors include gender roles, cultural perceptions of masculinity, traditional family dynamics, and societal expectations regarding men's roles in reproductive health. For example, in many cultures, pregnancy and childbirth are viewed as exclusively women's concerns, and men may perceive

antenatal care as irrelevant to their role as fathers or partners (Ongeso & Okoth, 2018). Additionally, stigma surrounding men's involvement in reproductive health matters may discourage male participation in antenatal care services (Kazimili & Mweya, 2023).

The implications of socio-cultural factors on men's participation in antenatal care are significant and multifaceted. Firstly, these factors can serve as barriers to accessing maternal healthcare services, leading to disparities in antenatal care utilization between men and women (Mamo, et al., 2021). When men perceive antenatal care as solely the responsibility of women, they may be less likely to accompany their partners to appointments or engage in discussions about pregnancy care. This lack of involvement can result in missed opportunities for early detection and management of pregnancy complications, potentially compromising maternal and neonatal health outcomes (Ongeso & Okoth, 2018).

Addressing socio-cultural factors influencing men's participation in antenatal care is essential for promoting gender equity in healthcare and improving maternal health outcomes. Interventions aimed at challenging traditional gender norms, promoting male involvement in reproductive health, and fostering supportive healthcare environments can help overcome these barriers (Påfs, et al., 2015). By promoting a more inclusive and gender-sensitive approach to antenatal care, health systems can encourage greater male participation, enhance communication between couples, and ultimately improve the quality and effectiveness of maternal healthcare services (Mekonen, et al., 2022).

Social-Economic Factors Effects to Male Partner Attendance in ANC

Social-economic factors contributing to male partner attendance in antenatal care refer to the influence of socio-economic status, including income, education level, employment status, and access to resources, on men's participation in antenatal care services (Nyang'au, et al., 2021). These factors can shape men's ability to accompany their partners to antenatal care appointments and engage in maternal healthcare. Higher socio-economic status is often associated with greater access to healthcare services, including antenatal care, due to factors such as financial resources, health insurance coverage, and transportation availability. Conversely, men from lower socio-economic backgrounds may face barriers such as financial constraints, lack of transportation, and competing work obligations, which can hinder their participation in antenatal care (Paul & Pandey, 2023).

The implications of social-economic factors on male partner attendance in antenatal care are significant and multifaceted. Firstly, disparities in socio-economic status can contribute to inequalities in antenatal care utilization, with men from higher socio-economic backgrounds being more likely to attend antenatal care appointments with their partners (Mapunda, et al., 2022). This can result in disparities in maternal health outcomes, as men's involvement in antenatal care has been shown to positively impact pregnancy care and health-seeking behaviors. Additionally, socio-economic factors can influence the quality of antenatal care services accessed by men and their partners. Men from lower socio-economic backgrounds may have limited access to high-quality healthcare facilities and may receive suboptimal antenatal care services, further exacerbating health disparities (Ongeso & Okoth, 2018).

Addressing social-economic factors contributing to male partner attendance in antenatal care is essential for promoting health equity and improving maternal and child health outcomes. Interventions aimed at reducing socio-economic barriers to antenatal care participation, such as providing financial assistance for transportation, offering flexible scheduling options for antenatal care appointments, and increasing awareness of the importance of male involvement

in pregnancy care, can help ensure that all men have equal opportunities to support their partners' health during pregnancy. By addressing these socio-economic factors, health systems can promote more inclusive and equitable antenatal care services, leading to improved maternal and child health outcomes for all families (Mapunda, et al., 2022)

Institution Factors Associated With Male Partner Attendance in Antenatal Care

Healthcare facility characteristics play a role, with findings indicating that factors like an uncomfortable environment, prohibitive participation, poorly perceived quality of care, poor staff attitudes, and inhibitive infrastructure can act as barriers (Mapunda et al., 2022). Long waiting times at clinics are also reported as a common deterrent for male partners (Kabanga et al., 2019; Mapunda et al., 2022). Studies suggest that a male-unfriendly environment and negative attitudes from health workers discourage attendance (Kabanga et al., 2019). Conversely, male partners who do attend report positive experiences with friendly healthcare providers and encouraging services in a comfortable setting (Gessesse et al., 2024).

Distance to the health facility is another documented institutional factor, with longer distances or travel times potentially decreasing the likelihood of male attendance (Gessesse et al., 2024; Mapunda et al., 2022). Specifically, living more than 5 Km from a facility was linked to lower attendance in one study, while a shorter travel time was considered an enabler in another (Gessesse et al., 2024).

Policies and practices within the health system can also influence male attendance. Strategies like prioritizing couples who attend together, while intended to encourage male presence, have been documented and can lead to unintended negative consequences for women attending alone (Kabanga et al., 2019; Osaki et al., 2021).

Furthermore, the role of health providers is highlighted. Obtaining health information from a facility health worker was positively associated with male attendance (Tirukelem et al., 2024). Inviting male partners to attend antenatal care is suggested as a valuable strategy to increase their involvement (Gessesse et al., 2024). Community-level health programs involving health extension workers and community mobilization by the health system are also noted as improving male partner involvement in maternal healthcare service utilization (Gessesse et al., 2024). Inflexible clinic hours and limited antenatal care days (like Monday-Friday) can also pose challenges for men due to work commitments (Gessesse et al., 2024).

Empirical Review

In Indonesia, Ibnu and Asyary (2022) reported that only 41.2% of men participated in ANC, with knowledge being the strongest predictor. Similarly, in Afghanistan, Alemi et al. (2021) found that male attendance at ANC was positively associated with better reproductive health service utilization by women. In India, Paul and Pandey (2023) observed that 85% of male partners accompanied their spouses to ANC, influenced by education, autonomy, and awareness. In Nigeria, Akinyemi and Ibrahim (2024) reported a 55% involvement rate, shaped by marital status, education, and views on gender roles. Barriers such as work demands, cultural norms, and negative healthcare experiences were common.

In Malawi, Nesane and Mulaudzi (2024) identified economic hardship, gender roles, and cultural beliefs as major barriers. Mamo et al. (2021) in Ethiopia found that factors such as marriage age, facility type, and women's empowerment impacted male involvement. In Eritrea, Beraki et al. (2023) highlighted religion, education, and awareness as key determinants. Likewise, Kazimili and Mweya (2023) in Tanzania found low male participation (21.7%), with

engagement shaped by facility friendliness and staff attitudes. Muia et al. (2022) in Kenya linked male involvement to occupation and distance to health facilities.

Uhawenimana et al. (2021) found that male attendance at childbirth was hindered by individual, social, and health system factors. Rurangirwa et al. (2017) revealed that over half of pregnant women missed recommended ANC visits, with low social support and older maternal age as contributing factors. These findings across contexts underscore the need for culturally sensitive, multi-level interventions to improve male engagement in ANC and enhance maternal health outcomes.

METHODOLOGY

Study Design

The present study will adopt a cross-sectional research design. This approach is chosen because it allows the researcher to generate an accurate profile of factors, events, and situations within the study population at a specific point in time. This method is particularly suited for examining the connection between various factors influencing male partner attendance in antenatal care services. By using a cross-sectional descriptive design, the study was able to identify and analyze the specific socio-demographic, socio-cultural, and socio-economic factors associated with male partner attendance in ANC services.

Study Population

Gupta and Gupta (2022) referred to population of the study as the collection of individuals or objects that are the main focus of scientific queries. The target population of this study comprises pregnant women attending antenatal care services residing in Gakenke District during the research period.

Sample Size and Sampling Technique

The sample size was calculated using Fisher's formula (Fisher, 1998), which estimates the required population size for risk-free health studies by predicting present and future epidemiological trends. The formula, $n= (Z^2pq)/d^2 n= (Z2pq)/d^2$, where $Z= 1.96 Z=1.96$ (95% confidence level), $p=0.50 p=0.50$ (estimated prevalence), $q=0.50 q=0.50$ (complementary probability), and $d=0.05 d=0.05$ (margin of error), yielded an initial sample size of 384. Given the finite population of Gakenke District (N = 600), a finite population correction was applied to adjust the sample size, resulting in a final sample of 235 respondents. This adjustment ensured statistical precision while accounting for the limited population size. Additionally, A mixed sampling approach was employed, combining purposive and random sampling techniques to enhance the study's validity. Purposive sampling targeted pregnant women meeting specific antenatal care criteria, while random sampling ensured representativeness and generalizability (Saunders et al., 2012). This methodological rigor minimized selection bias and strengthened the extrapolation of findings to the broader population of interest.

Data Collection Tools and Methods

Data was collected using structured questionnaires, with close-ended questions that encourage participants to express their thoughts, opinions, and experiences related to the research topic. All questionnaires were set in Kinyarwanda and English to facilitate the respondent to use their spoken language. The structured questionnaire was chosen to gather quantitative data from a large and diverse sample of participants. The structured questionnaire allows for the collection of standardized data.

Data Analysis

This study used descriptive and inferential statistical methods to analyze factors affecting men's partner attendance in antenatal care services. Frequencies analysis was used to analyze the prevalence of male partners' attendance in antenatal care, Chi-square analysis ross-tabulation was used identify the factors associated with the male attendance, while bivariate (COR) and multivariate (AOR) regression analyses was employed to examine individual relationships between predictors. All statistical analyses were conducted using SPSS version 27.0, providing a robust framework for interpreting results and drawing meaningful conclusions about the factors influencing men's partner attendance in antenatal care services.

RESULTS

Socio-demographic Characteristics of the Respondents

The majority of responders (55.3%) were between the ages of 25 and 35. (88.5%) were married. Only a small percentage had no education, secondary education, or higher education, whereas the majority (77.4%) had only primary education. The most prevalent religion (49.4%) was Catholicism, which was followed by Protestant, Adventist, and Muslim affiliations, Table 1.

Table 1: Socio-Demographic Characteristics of the Respondents

Variable	Frequency (N)	Percentage (%)
Age		
Below 25	57	24.3%
25 – 35	130	55.3%
Above 35	48	20.4%
Marital Status		
Single	17	7.2%
Married	208	88.5%
Separated	10	4.3%
Level of Education		
No formal education	40	17.0%
Primary education	182	77.4%
Secondary education	51	21.7%
Higher education	2	0.9%
Religion		
Catholic	116	49.4%
Protestant	78	33.2%
Adventist	33	14.0%
Muslum	8	3.4%

Source: By Researcher 2025

Demographic Characteristics of Respondents' Male Partners

Fewer participants were under 25 or over 35, with the majority (47.2%) being between the ages of 25 and 35. Few were separated or single, and the vast majority (88.5%) were married. Fewer people had no formal, secondary, or higher education, while the majority (45.1%) had only completed primary school, as shown in the Table 2.

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Table 2: Demographic Characteristics of Male Partner of the Respondents

Variable	Frequency (N)	Percentage (%)
Age		
Below 25	68	28.9%
25 – 35	111	47.2%
Above 35	56	23.8%
Marital Status		
Single	17	7.2%
Married	208	88.5%
Separated	10	4.3%
Level of Education		
No formal education	40	17.0%
Primary education	106	45.1%
Secondary education	71	30.2%
Higher education	18	7.7%

Source: Primary Data (2025)

The Prevalence of Male Partners Participating in Antenatal Care Services in Gakenke District

Among women who accessed antenatal care services, only 35.3%, 95% CI [0.29 - 0.42] indicated that their male partners were actively involved by accompanying them during antenatal care visits, as shown in the Figure 1.

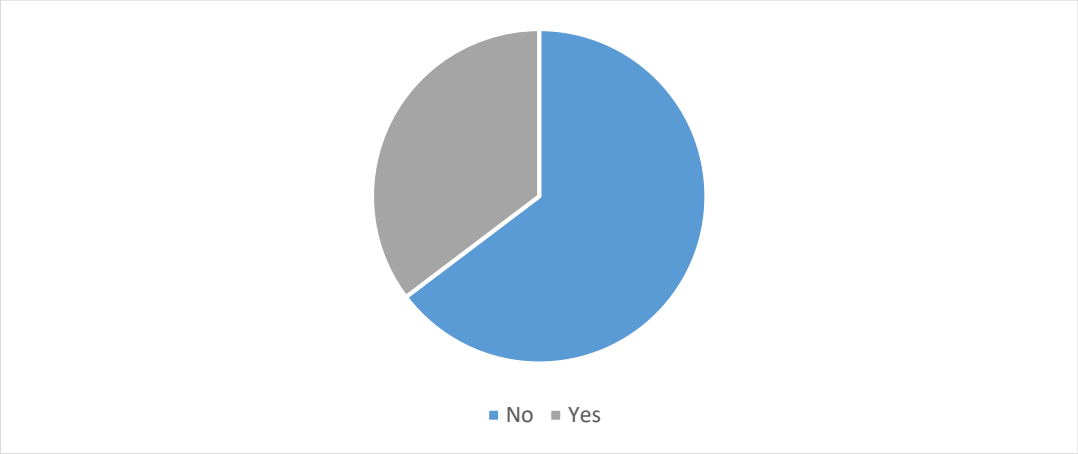

Figure 1: Prevalence of Male Partners Participating in Antenatal Care Services

Social Demographic Factors Associated With Male Attendance in Antenatal Care Services in Gakenke District

There were no significant associations between ANC attendance and age, $\chi^2(2) = 1.25$, $p = .536$, or marital status, $\chi^2(2) = 0.36$, $p = .835$. However, a significant relationship was found between ANC attendance and education level, $\chi^2(3) = 79.85$, $p < .001$, with higher education linked to greater attendance as shown in the Table 3.

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Table 3: Chi-square Analysis for Social Demographic Factors Associated With Male Attendance in Antenatal Care Services in Gakenke District

Variables	Male partners ANC attendance		Chi-square	P-value
	No (n=152)	Yes (n=83)		
Age of Male Partners				
Below 25	34 (22.4%)	23 (27.7%)	1.248	0.536
25 – 35	88 (57.9%)	42 (50.6%)		
Above 35	30 (19.7%)	18 (21.7%)		
Marital Status				
Single	12 (7.9%)	5 (6.0%)	0.362	0.835
Married	134 (88.2%)	74 (89.2%)		
Separated	6 (3.9%)	4 (4.8%)		
Male Partner's Level of Education				
No formal education	27 (17.8%)	1 (1.2%)	79.853	<0.001
Primary education	63 (41.4%)	15 (18.1%)		
Secondary education	43 (28.3%)	10 (12.0%)		
Higher education	19 (12.5%)	57 (68.7%)		

Source: Survey Data (2025)

Social Cultural Factors Associated With Male Attendance in Antenatal Care Services in Gakenke District

Significant associations were found between ANC attendance and both community norms, $\chi^2(1) = 28.10$, $p < 0.001$, and peer pressure from other men, $\chi^2(1) = 27.56$, $p < 0.001$. No significant relationship was observed between ANC attendance and influence from family and friends, $\chi^2(1) = 0.57$, $p = 0.449$, as shown in the Table 4.

Table 4: Chi-square Analysis for Social Cultural Factors Associated With Male Attendance in Antenatal Care Services in Gakenke District

Variables	Male partners ANC attendance		Chi-square	P-value
	No (n=152)	Yes (n=83)		
Community Norm on Male Attendance in ANC			28.104	<0.001
No	109 (71.7%)	30 (36.1%)		
Yes	43 (28.3%)	53 (63.9%)		
Peer Pressure from Other Men to Attend ANC			27.563	<0.001
No	91 (59.9%)	20 (24.1%)		
Yes	61 (40.1%)	63 (75.9%)		
Influence of Family and Friends on Attendance			0.574	0.449
No	140 (92.1%)	74 (89.2%)		
Yes	12 (7.9%)	9 (10.8%)		

Source: Survey Data (2025)

Social Economic Factors Associated With Male Attendance in Antenatal Care Services in Gakenke District

A significant association was found between male partner's occupation and ANC attendance, $\chi^2(3) = 65.23$, $p < 0.001$. However, no significant relationship was observed between male partner's monthly income and ANC attendance, $\chi^2(3) = 4.32$, $p = 0.229$, as shown in the Table 5.

Table 5: Chi-square Analysis for Social Economic Factors Associated With Male Attendance in Antenatal Care Services in Gakenke District

Variables	Male partners ANC attendance		Chi-square	P-value
	No (n=152)	Yes (n=83)		
Male Partner's Occupation			65.228	<0.001
Unemployed	48 (31.6%)	24 (28.9%)		
Self-employed	29 (19.1%)	55 (66.3%)		
Employed part-time	34 (22.4%)	2 (2.4%)		
Employed full-time	41 (27.0%)	2 (2.4%)		
Male Partner's Monthly Income			4.315	0.229
≤30,000 Frw	60 (39.5%)	44 (53.0%)		
30,001–60,000 Frw	47 (30.9%)	18 (21.7%)		
60,001–100,000 Frw	35 (23.0%)	17 (20.5%)		
≥100,001 Frw	10 (6.6%)	4 (4.8%)		

Source: Survey Data (2025)

Institutional Factors Associated With Male Attendance in Antenatal Care Services in Gakenke District

A statistically significant association was observed between ANC attendance and both encouragement from health providers, $\chi^2(1) = 8.08$, $p = 0.004$, and community health programs encouraging male attendance, $\chi^2(1) = 23.84$, $p < 0.001$. No significant associations were found for prioritization of couples with male partners, $\chi^2(1) = 0.04$, $p = 0.842$, or complaints about long distance to the health facility, $\chi^2(1) = 0.01$, $p = 0.910$, as shown in the Table 6.

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Table 6: Chi-square Analysis for Institutional Factors Associated With Male Attendance in Antenatal Care Services in Gakenke District

Variables	Male partners ANC attendance		Chi-square	P-value
	No (n=152)	Yes (n=83)		
Prioritization of Couples with Male Partners			0.040	0.842
No	138 (90.8%)	76 (91.6%)		
Yes	14 (9.2%)	7 (8.4%)		
Encouragement from Health Providers to Male Partners			8.075	0.004
No	71 (46.7%)	23 (27.7%)		
Yes	81 (53.3%)	60 (72.3%)		
Complaints About Long Distance to Health Facility			0.013	0.910
No	120 (78.9%)	65 (78.3%)		
Yes	32 (21.1%)	18 (21.7%)		
Complaints About Long Waiting Time During Antenatal Care			0.089	0.766
No	69 (45.4%)	36 (43.4%)		
Yes	83 (54.6%)	47 (56.6%)		
Community Health Programs Encouraging Male Attendance			23.840	<0.001
No	89 (58.6%)	21 (25.3%)		
Yes	63 (41.4%)	62 (74.7%)		

Source: Survey Data (2025)

Regression Analysis

Bivariate Analysis

Higher education significantly increased male ANC attendance (COR = 2.85, p = 0.022), while primary (COR = 0.32, p = 0.001) and secondary education (COR = 0.25, p = 0.001) were negatively associated. Strong positive associations were observed for supportive community norms (COR = 4.48, p < 0.001), peer pressure (COR = 4.70, p < 0.001), and community programs (COR = 4.17, p < 0.001). Self-employment increased attendance (COR = 3.79, p < 0.001), whereas part-time (COR = 0.12, p = 0.005) and full-time work (COR = 0.10, p = 0.002) reduced it. Health provider encouragement was also significant (COR = 2.29, p = 0.005).

Multivariate Analysis

After adjusting for confounders, Higher education (AOR = 2.80, p = 0.025) significantly increased male ANC attendance, while primary (AOR = 0.29, p = 0.001) and secondary education (AOR = 0.25, p = 0.001) lowered the odds. Supportive community norms (AOR = 4.56, p < 0.001), peer pressure (AOR = 4.74, p < 0.001), and community health programs (AOR = 4.10, p < 0.001) were strongly associated with higher participation. Self-employment raised likelihood (AOR = 3.59, p < 0.001), while part-time (AOR = 0.11, p = 0.005) and full-time

jobs (AOR = 0.10, p = 0.002) reduced it. Health provider encouragement also remained significant (AOR = 2.20, p = 0.011), as shown in the Table 7.

Table 7: Crude Vs Adjusted Model for Factors Associated with Male Partner Attendance in Antenatal Care in Gakenke district

Variables	COR (95% CI)	p-value (COR)	AOR (95% CI)	p-value (AOR)
Socio-demographic factors				
Education level				
No formal education	Ref		Ref	
Primary education	0.32 (0.16–0.64)	0.001	0.29 (0.14–0.61)	0.001
Secondary education	0.25 (0.11–0.58)	0.001	0.25 (0.11–0.58)	0.001
Higher education	2.85 (1.17–6.97)	0.022	2.80 (1.14–6.87)	0.025
Socio-cultural factors				
Community norm on male ANC attendance				
No	Ref		Ref	
Yes	4.48 (2.53–7.92)	<0.001	4.56 (2.48–8.39)	<0.001
Peer pressure from other men to attend ANC				
No	Ref		Ref	
Yes	4.70 (2.58–8.55)	<0.001	4.74 (2.51–8.97)	<0.001
Socio-economic factors				
Male partner's occupation				
Unemployed	Ref		Ref	
Self-employed	3.79 (1.95–7.38)	<0.001	3.59 (1.83–7.05)	<0.001
Employed part-time	0.12 (0.03–0.53)	0.005	0.11 (0.02–0.51)	0.005
Employed full-time	0.10 (0.02–0.44)	0.002	0.10 (0.02–0.44)	0.002
Institutional factors				
Encouragement from healthcare providers for male attendance				
No	Ref		Ref	
Yes	2.29 (1.29–4.07)	0.005	2.20 (1.20–4.05)	0.011
Community health programs encouraging male attendance				
No	Ref		Ref	
Yes	4.17 (2.31–7.53)	<0.001	4.10 (2.25–7.48)	<0.001

Source: Survey Data (2025)

Discussion

This study found that only 35.3% of women in Gakenke District reported male partner attendance during antenatal care (ANC) visits. While this aligns with national averages reported in Kenya (35%), it falls below figures from Afghanistan (69.4%) and some peri-urban Tanzanian districts (56.9–69%) (Alemi et al., 2021; Mapunda et al., 2022). Conversely, it is higher than rates observed in Malawi (13.7%) and Ethiopia (19.7%) (Gessesse et al., 2024). These variations reflect the influence of context urban versus rural settings, cultural norms, and differing methodologies across studies. Gakenke's rural character, with persistent traditional gender roles, likely limits male participation compared to more urbanized or program-intensive regions.

Contrary to some expectations, male partner age and marital status were not significantly associated with ANC attendance. While other studies report mixed findings on age—some indicating older men are more supportive due to increased responsibility (Mamo et al., n.d.), and others showing reduced involvement with increased maternal age these patterns were not evident here. This could be due to narrow age variability in the sample or unmeasured relational dynamics. Regarding marital status, many comparative studies only assess married or cohabiting couples, limiting generalizability. Our findings suggest that beyond marital status, the quality of relationship dynamics may be more relevant than status itself an area worth exploring in future research.

Education level emerged as a strong predictor of male ANC attendance, in line with findings from India, Kenya, Ethiopia, and Afghanistan (Alemi et al., 2021; Gessesse et al., 2024; Paul & Pandey, 2023b). Educated men may have greater health literacy and be more receptive to shared decision-making, while educated women are more likely to advocate for partner involvement. Education may also indirectly influence male attendance through higher awareness, reduced adherence to restrictive gender norms, and improved communication within couples.

Socio-cultural factors significantly shaped male involvement. Peer encouragement and supportive community norms increased the likelihood of ANC attendance, echoing findings from Tanzania and Ghana where social pressure and notions of masculinity influenced participation (Boniphace et al., 2021; Paul & Pandey, 2023b). The significance of peer support in Gakenke suggests that community-based male-to-male engagement strategies may be particularly effective. In contrast, influence from family and friends showed no significant association, aligning with studies emphasizing broader community dynamics and couple-level decision-making over extended family roles (Gessesse et al., 2024).

This study also identified occupation type not income as a significant factor. Self-employed men had greater flexibility to attend ANC, while those in formal employment may face scheduling barriers. Though other studies found higher household wealth associated with greater attendance (Paul & Pandey, 2023b; Alemi et al., 2021), the lack of a significant relationship between income and attendance in Gakenke could reflect the local economic structure. In subsistence-based rural economies, income may not directly translate to time flexibility or access, particularly if healthcare is geographically or logistically constrained. Additionally, income was self-reported, which may limit its reliability as a variable.

Institutional support proved crucial. Male attendance was significantly associated with encouragement from health providers and exposure to community health programs. These findings align with evidence from Ethiopia and Uganda, where provider invitation and community mobilization improved male participation (Mamo et al., Tweheyo et al., 2010b; Gessesse et al., 2024). In contrast, prioritization of couples with male partners an intervention used in Tanzania and Rwanda to fast-track services did not show a significant effect in Gakenke. This could indicate limited implementation or low awareness of such policies among the local population. Similarly, distance to health facilities, a barrier in other studies (Tweheyo et al., 2010b; Gessesse et al., 2024), was not significant in this context. It is possible that other barriers, such as socio-cultural expectations or institutional outreach, play a more decisive role than physical proximity in this rural setting.

Overall, the findings support the global consensus on key determinants of male involvement in ANC but also highlight the need to interpret them within local socio-economic and cultural frameworks. Variations in findings across studies emphasize the importance of methodological transparency and context-specific analysis. More nuanced qualitative research is needed to uncover underlying gender dynamics, motivations, and relational factors influencing male involvement beyond easily measurable demographic indicators..

Conclusion

This study found that male partner participation in antenatal care in Gakenke District remains critically low, with just over a third of women reporting partner involvement. Higher education, supportive community norms, peer encouragement, and institutional outreach were key enablers of participation. Self-employment supported greater involvement, while formal employment posed barriers due to limited flexibility. Healthcare provider encouragement and exposure to male-focused health programs significantly boosted attendance. These findings suggest that improving male engagement in antenatal care requires a multifaceted approach that addresses educational, cultural, occupational, and institutional factors. Without targeted interventions, male participation will likely remain limited.

Implications of the Study

The findings underscore the necessity for targeted, evidence-based interventions to enhance male involvement in antenatal care. Public health initiatives should prioritize educational outreach for men with limited formal education and leverage community-based strategies to shift prevailing gender norms. Additionally, workplace policies that accommodate men's participation in maternal health activities may help mitigate structural barriers, particularly among formally employed individuals. Health systems should adopt male-inclusive models by training providers to engage male partners and by integrating outreach programs that normalize male presence in reproductive healthcare settings. These strategies, if effectively implemented, have the potential to improve maternal and neonatal outcomes, aligning with global health priorities and Sustainable Development Goals.

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