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Research Article

Barriers to Male Involvement in Family Planning Services: Health Service Challenges in Musanze District, Northern Rwanda

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Abstract

Background: Male involvement in family planning (FP) is crucial for improving reproductive health outcomes, yet participation remains low in many Sub-Saharan African countries, including Rwanda. This study assessed the level of male involvement and identified health service-related barriers to FP service utilization among men in Musanze District, Northern Rwanda. *Methods:* A community-based cross-sectional study was conducted among 397 married men aged 21 and above in Musanze District. Participants were selected using simple random sampling. Data were collected through pre-tested, interview-administered questionnaires. Multivariable logistic regression analysis was used to identify health service-related factors associated with male involvement in FP. *Results:* The overall level of male involvement in FP services was low, at 36.7%. After adjusting for other variables, distance to a health facility was significantly associated with involvement. Men living more than 5 km from an FP service delivery point had 93% lower odds of being highly involved in FP compared to those living within 5 km (Adjusted Odds Ratio [AOR] = 0.071; 95% CI: 0.009-0.579). *Conclusion:* Male involvement in FP services in Musanze district is low, with geographic distance to facilities being a major health service barrier. Interventions to increase male participation should include strategies to improve physical access to FP services, such as community-based service delivery and mobile clinics.

Keywords

Male Involvement, Family Planning Services, Health Service Barriers, Musanze District, Rwanda

1. Introduction

Family planning (FP) enables individuals and couples to control the number and timing of their children through contraceptive methods, fertility treatments, and reproductive health education [1]. Despite its importance, low utilization of FP remains a significant global public health challenge. In developing countries, this is exacerbated by inadequate

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healthcare infrastructure, limited contraceptive availability, and insufficient reproductive health education, often compounded by cultural and religious beliefs [2].

Globally in 2019, 190 million women of reproductive age had an unmet need for modern contraception, with the disparity most pronounced in Sub-Saharan Africa [3].

Traditionally, FP programs have focused predominantly on women, leading to limited male engagement in decision-making and service utilization. However, evidence shows that active male participation is critical for equitable and effective FP outcomes. In many African contexts, men are primary decision-makers, and their approval is often required for women to access contraceptive services [4]. Male involvement in FP extends beyond condom use and vasectomy to include supporting partners, advocating within communities, and engaging in policy dialogue [5, 6]. Engaging men in FP has the potential to improve contraceptive uptake, reduce unmet need, and prevent an estimated 830 maternal deaths daily in sub-Saharan Africa [7]. Furthermore, it is a contributing factor to low contraceptive usage and a high unmet need for FP in Africa. It can potentially reduce maternal mortality by 32% and child mortality by 10% [4].

Despite policy initiatives, male participation remains low across much of Sub-Saharan Africa. A study in Ethiopia found only 12.5% of men were involved in FP, citing reasons such as lack of knowledge, fear of side effects, desire for more children, and cultural prohibitions [4]. Strengthening male participation is essential for achieving Sustainable Development Goal 3 of reducing maternal mortality.

A study conducted in Uganda revealed that men's active participation in family planning (FP) services enhances women's motivation to adopt, use, and maintain contraceptive methods. The findings showed that 34.0% of women experienced low partner involvement in FP, 80.6% believed that discussing FP with their partners positively influenced their contraceptive practices, and 93.5% acknowledged that men play a significant role in family planning [8]. Therefore, it is essential to ensure the continuous involvement of men in family planning services.

In Rwanda, the government has positioned FP as a cornerstone of poverty reduction and socioeconomic development [9]. Strategies include training providers, mass media campaigns, and strengthening contraceptive supply chains [10]. However, according to the 2019-2020 Rwanda Demographic and Health Survey (RDHS), contraceptive use among married women stands at 64%, with a 30% discontinuation rate within the first year and a 14% unmet need for FP [11]. This highlights a persistent gap that male involvement could help address.

In Musanze district, male engagement in maternal and child health services, including FP, remains low. Prior research indicates that men often perceive these services as a woman's responsibility and are deterred by factors such as encountering acquaintances at health facilities, negative staff attitudes, long waiting times, and lack of dedicated spaces for men [12].

Failure to engage men in FP can lead to serious consequences, including sustained high unmet need and contraceptive discontinuation, even when women are motivated to use FP methods [9]. However, access to FP services among men is limited due to various health services-related barriers that have not been identified. This study aimed to document the current level of male involvement in FP and identify specific health service-related barriers affecting their participation in Musanze District, Northern Rwanda.

2. Materials and Methods

2.1. Study Design, Setting, and Period

A cross-sectional study was conducted from August to December 2023 in the Musanze district, Northern Province, Rwanda. Musanze has a population of 476,522, with 74,801 men aged 21 years and above [13]. The district was selected due to its low contraceptive prevalence rate (70%, the third lowest in the Northern Province) and a high total fertility rate (3.5 children) [11].

2.2. Population and Eligibility Criteria

The study targeted married men aged 21 and older residing in Musanze District with female partners of reproductive age (15-49 years). Men in this demographic are typically in stable relationships and actively involved in reproductive decisions. Inclusion criteria were: voluntary consent, being a married man aged ≥21, having a partner of reproductive age, and residence in Musanze District. Exclusion criteria included refusal to participate, communication or hearing impairments, reported infertility, or having a partner outside the reproductive age range.

2.3. Sample Size Determination

The sample size was determined using Slovin's Formula

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

According to the Musanze District Profile published by the National Institute of Statistics of Rwanda (NISR, 2023), the estimated number of males aged 21 years and above is 74,801. Given this study population (N = 74,801), and using a 95% confidence level with a 0.05 margin of error, the sample size is calculated as follows:

$$n = \frac{74801}{1+74801.(0.05)^2} = 397$$

2.4. Sampling Procedure

Three of the district's 15 sectors (one urban, two rural) were purposively selected based on the researcher's logistical capacity and geographical representation. A simple random

sampling method was employed. All eligible men in the selected sectors were assigned a unique identifier, and 397 participants were selected using a random number generator in the R statistical software package.

2.5. Study Variables and Measurements

The primary outcome variable was male involvement in FP services, categorized as *high* or *low*. This was computed from six 'Yes' or 'No' questions assessing: men's personal use of FP methods, accompanying a partner to an FP facility, discussing FP with a partner, approving the partner's use of FP, providing support to access FP services, and encouraging FP use. A summative score was calculated; men scoring 0-3 were classified as having 'low involvement,' and those scoring 4-6 as 'high involvement,' consistent with prior research [4, 5]. Predictor variables related to health services included: distance to FP facility (≤5 km vs. >5 km), fear of side effects (Yes/No), and availability of FP in the community (Yes/No).

2.6. Data Collection Procedure

A structured questionnaire, adapted from previous studies [14, 15], was used. It was translated into Kinyarwanda and included closed and semi-closed questions. The tool was pre-tested on 10% of the sample (n=40) in the Kinigi sector (excluded from the main study) to check for clarity, reliability, and validity. Feedback from academic supervisors and the pre-test led to minor refinements.

2.7. Data Analysis

Data were analyzed using Stata version 18. Descriptive statistics (frequencies, percentages, means, and standard deviations) summarized sociodemographic characteristics. A multivariable logistic regression model was used to identify factors associated with male involvement, reporting Adjusted Odds Ratios (AORs) with 95% Confidence Intervals (CIs). A p-value of < 0.05 was considered statistically significant.

2.8. Ethical Consideration

Ethical approval was obtained from Mount Kenya University's Ethical Review Committee (Ref: MKU/04/PGS&R/0927/2023). Permission was secured from Musanze district administration and local leaders. Written informed consent was obtained from all participants after explaining the study's purpose, risks, and benefits. Confidentiality was maintained by not recording names, securing questionnaires, and using password-protected computers for data storage.

3. Result

3.1. Demographic Characteristics of Respondents

The mean age of the 397 respondents was 38.1 years (SD=7.8). The largest age group was 32-42 years (44.8%). Nearly half (46.1%) had secondary education, and 57.4% were in informal (illegal) marriages. Just over half (51.4%) were employed, and the vast majority (93.5%) had between 0-5 living children (Table 1).

Table 1. *Sociodemographic characteristics of the respondents (n=397).*

Variables	Frequency (n=397)	Percent (%)
Age group		
21-31	95	23.9
32-42	178	44.8
43-53	109	27.5
54-64	15	3.8
Education Level		
No education	44	11.1
Primary	122	30.7
Secondary	183	46.1
University	48	12.1
Religion		
Catholic	188	47.4
Other Christian	103	25.9
Adventist	82	20.7
Muslim	24	6.1
Marital status		
Informally married	228	57.4
Legally married	169	42.6
Employment status		
Employed	193	48.6
Unemployed	204	51.4
Number of living children		
0-5	371	93.5
6-10	26	6.6

3.2. Level of Male Involvement in FP Services Utilization

The study found that overall male involvement in FP services was low, at 36.7% (Figure 1).

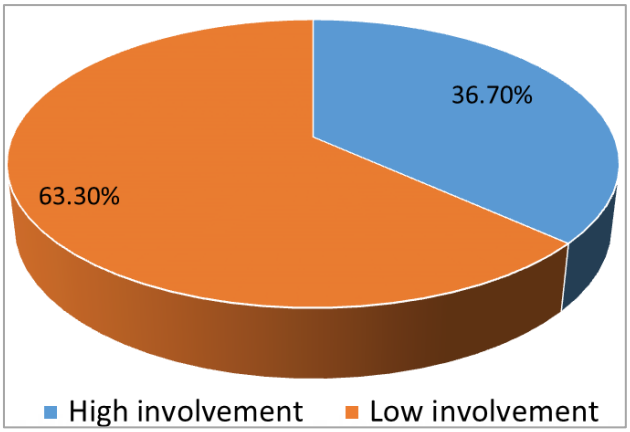

Figure 1. *Level of Male Involvement in FP Services Utilization.*

3.3. Health Services-related Barriers and Male Involvement

Bivariate analysis showed significant associations between male involvement and both distance to a health facility (p=0.0004) and fear of side effects (p=0.0136). No significant association was found with the availability of FP in the community (p=0.1029) (Table 2).

Table 2. *Health services-related barriers and male Involvement in FP services Utilization.*

Variables	Male Involvement in FP		Chi-square	P-value
	Low	High		
Distance to a health facility				
Very close (less than 5 km)	227	145	12.33	0.0004
Very far (more than 5 km)	24	1		
Fear of side effects				
Yes	9	14	6.10	0.0136
No	242	132		
Availability of FP in the community				
Yes	12	133	2.26	0.1029
No	239	13		

Key: Statistically significant difference means (P<0.005)
Source: Primary Data, 2024

3.4. Multivariable Analysis of Factors Associated with Male Involvement

In the multivariable logistic regression model, only distance to a health facility remained significantly associated with male involvement after adjusting for other variables. Men living more than 5 km from an FP facility had 93% lower odds of being highly involved compared to those living within 5 km (AOR = 0.071; 95% CI: 0.009-0.579). Fear of side ef-

fects and availability of FP in the community were not statistically significant in the adjusted model (Table 3).

Table 3. *Multivariable analysis of factors associated with male involvement in FP.*

Variable	Male involvement		P-value	Odds Ratio	Sig
	Low f (%)	High f (%)		AOR (95% CI)	
Distance to a health facility					
Less than 5 km	227 (90.44%)	145(99.32%)		Ref	
More than 5 km	24 (9.56%)	1(0.68%)	0.013	0.071(0.009-0.579)	**
Fear of side effects					
Yes	9(3.59%)	14(9.59%)	0.087	3.444(0.835-14.202)	
No	242(96.41%)	132(90.41%)		Ref	
Availability of FP in the community					
Yes	12(4.78%)	13(8.9%)	0.904	0.916(0.222-3.78)	
No	239(95.22%)	133(91.1%)		Ref	

Significance: *** p<0.001, ** p=0.01, * p<0.05. Ref: Reference

4. Discussion

This study assessed the level of male involvement in FP and identified key health service-related barriers in Musanze District, Rwanda.

4.1. Current Level of Male Involvement in FP Services

The findings reveal a low level of male involvement in FP (36.7%). This rate is consistent with studies from Ethiopia (39.9%) [16] and Bangladesh (40%) [17], indicating a comparable level of male involvement in FP., suggesting a common regional challenge. However, it is higher than rates reported in Tanzania (17.5%) [15], 12.5% in Ethiopia [4], 17% in the Democratic Republic of Congo [18] and 8% in Indonesia [19] In Indonesia, there is a widely held belief that FP is mainly women's responsibility. The focus of national FP programs on women further reinforces this perception. Furthermore, the significant differences in the use of FP services throughout these countries are partly explained by factors such as place of residence, region, and socioeconomic status. Another potential factor contributing to these differences could be the variations in population characteristics and sample sizes.

4.2. Health Services-Related Barriers Affecting Male Involvement in FP Services Utilization

A key finding of this study is the strong independent association between geographic distance to health facilities and low male involvement. Men residing more than 5 km from an FP service point had significantly lower odds of involvement. This aligns with studies in Tanzania [17] and Uganda [20], which identified distant health facilities and general inaccessibility as major barriers. The inconvenience, travel time, and associated costs likely deter men from seeking FP services. Furthermore, studies note that even when men visit facilities, unwelcoming environments such as those perceived as female-centric, long waiting times, and negative staff attitudes further discourage their engagement. While fear of side effects showed a significant association in the bivariate analysis, it was not significant in the multivariable model, suggesting its effect may be mediated or confounded by other factors like distance. The lack of association with the availability of FP in the community suggests that mere physical presence of services is insufficient if other access barriers, like distance and socio-cultural factors, are not addressed. Community-based approaches, including education campaigns and mobile clinic services, have been shown to reduce these barriers and are crucial for increasing male participation in FP [21].

5. Limitations of the Study

This study looked specifically at three health service-related factors: distance to a health facility, fear of side effects, and availability of family planning services in the community. These factors were chosen because they are commonly reported in the literature as major barriers to male involvement in family planning and were practical to measure

within the study's scope, time, and resources. Focusing on only these aspects, however, means that other possible influences, such as provider attitudes, service quality, or cultural beliefs, were not explored. The cross-sectional design also makes it difficult to draw conclusions about cause and effect, and because the study was limited to one district, the findings may not fully represent other parts of Rwanda. Future studies could use longitudinal or qualitative methods and include more regions to gain a deeper and more comprehensive understanding of the factors that shape men's involvement in family planning.

6. Conclusions

Male involvement in FP services in Musanze district is low (36.7%). Geographic distance to health facilities is a significant health service barrier, with men living farther away being substantially less involved. To enhance male participation, FP programs must address this access issue by decentralizing services through community-based distribution, mobile clinics, and outreach programs. Integrating men into FP initiatives by making services more accessible and male-friendly is essential for improving contraceptive uptake and advancing reproductive health outcomes in Rwanda.

Abbreviations

FP	Family Planning
AOR	Adjusted Odds Ratio
CI	Confidence Interval
RDHS	Rwanda Demographic and Health Survey

Author Contributions

Emmanuel Ndahiro Manirafasha: Data curation, Formal Analysis, Methodology, Writing - original draft, Project administration

Helen Ewing: Conceptualization, Supervision, Writing - review & editing, Investigation,

Samuel Niyitegeka: Resources, Writing - review & editing

Emmanuel Dushimimana: Resources, Writing - review & editing

Clementine Ingabire: Resources, Writing - review & editing

Leonard Hakizimana: Resources, Writing - review & editing

Marguerite Mukarugwiza: Resources, Writing - review & editing

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Consent for Publication

Not applicable.

Ethics Approval and Consent to Participate

This study followed the ethical principles of Mount Kenya University's research guidelines and the Declaration of Helsinki. Approval was obtained from the university's Ethical Review Committee (Reference: MKU/04/PGS&R/0927/2023) and permission from Musanze District authorities and local community leaders. Participants were given clear verbal and written information about the study's purpose, risks, and benefits, and written informed consent was obtained. They were assured of voluntary participation with the right to withdraw at any time, anonymity by avoiding names or identifiers, and confidentiality through secure data storage. Completed questionnaires were locked away, electronic files were encrypted and stored on secure servers, and findings were presented only in aggregate to protect individual identities.

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Conflicts of Interest

The authors declare no competing interests.

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