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## INVOLVEMENT OF MALES IN MATERNAL HEALTH CARE SERVICES IN RWAMAGANA DISTRICT, RWANDA

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**Abstract** :-Worldwide, the involvement of males in maternal health care has emerged as a critical factor influencing the effectiveness and accessibility of these services. Involving men in maternity care was identified as important tool for improving health of mothers and dipping maternal mortality. Engaging men in maternal healthcare provides an opportunity for them and other family members to gain insight into and accept the discomfort and tiredness that women endure during pregnancy. To improve the health of the mothers, men can play an important role to support systems that pregnant women require. Men's participation in MHC has been low despite several advantages of the MHC services to mothers and their and babies. The primary goal of this project is to identify the factors having an impact on limited men's participation in MHC services in Rwamagana district. The research employed a cross-sectional approach. The targeted population is made of women seeking MHC services at Rwamagana HC and AVEGA HC whose number is 2925. The sample size is made of 385 mothers determined by the Fischer formula. Simple random and stratified sampling techniques were used. SPSS 21 was used to conduct various statistical analyses for the study, including significance analysis to determine the significance in terms statistics of the relationships between variables. The findings showed that men involvement in MCH services was 36.4%. The study found that men aged 21-35 have 3 times more chances of being involved in matters related to maternal and child health (MCH) services compared to younger men (AOR=3.0, 95% CI: 1.726, 5.291, P=0.001), those living within a 30-minute distance from a health facility had 3.1 times more chances of being involved than those living over an hour away (AOR=3.1, 95% CI: 2.592, 8.205, P=0.001), married men had six times more chances of being involved than unmarried men (AOR=6.1, 95% CI: 2.672, 8.372, P=0.001), university-educated men were twice as likely to be involved as uneducated men (AOR=2.8, 95% CI: 1.338, 6.005, P<0.007), men earning over 500,000 Rwf monthly had six times more chances of being involved than those earning under 15,000 Rwf (AOR=6.8, 95% CI: 3.357, 9.108, P=0.001), employed husbands had seven times more chances of being involved than unemployed husbands (AOR=6.9, 95% CI: 2.311, 12.910, P=0.001), and husbands who planned the pregnancy with their wives were twice as likely to be involved in MCH services (AOR=2.6, 95% CI: 1.736, 4.132, P=0.001); the study revealed a low overall level of male involvement in MCH services and recommends enhancing health facility accessibility and promoting education and awareness programs to address this issue.

**Key words:** Involvement, Males, Maternal Health Care Services, Rwamagana District, Rwanda

**Introduction**

Worldwide, the involvement of males in maternal health care has emerged as a critical factor influencing the effectiveness and accessibility of these services. Traditionally, maternal health has been perceived as a predominantly female domain; however, the active participation of men in supporting and engaging with these services can lead to better health outcomes. This shift in perspective aligns with broader global health initiatives that recognize the importance of inclusive approaches to health care, where the support and involvement of male partners are seen as integral to fostering a supportive environment for maternal health (Gopal et al., 2020).

Maternal health care (MHC) is range of services that women receive during their pregnancies, deliveries, and postnatal phases (Paul & Pandey, 2023). This has an immediate impact on health of a mother and a knock-on effect on the health of the household and community. It requires appropriate medical care for a fetus to develop normally throughout the prenatal stage. But social, emotional, and financial assistance are just as important (Galle et al., 2021).

Nowadays, over half a million women worldwide die annually due to pregnancy-related complications, and most affected people reside in with developing countries (UNFPA, 2018). In SSA, one in every thirteen women succumbs to these complications, a staggering statistic that contradicts the SDG Agenda's goal (Craymah et al., 2017). The International Conference conducted on matters related to Population Development (ICPD) held in Nairobi in 2019 highlighted that 810 women die each day while giving birth. As part of a global policy approach to reduce MMR, the heads of state agreed to reassess fathers' roles in baby care. Nationally, public health practitioners are committed to providing high-quality, compassionate maternity and newborn care (Douglas Passanisi, 2019). Studies from various regions reveal significant gaps in male involvement in MHC. For instance, in Indonesia's Muaro Jambi District, 41.2% of men were not active in antenatal care (ANC), with involvement substantially linked to factors such as age, family size, wealth, and knowledge. Health promotion is seen as crucial by Indonesian healthcare providers for encouraging male participation in ANC (Guspianto et al., 2022).

In the East African Community (EAC), male participation in MHC varies. In Kenya, only 18% of males were involved in MHC (Nyang'au et al., 2021), while in Butula, western Kenya, 55.8% of

males participated in ANC and postnatal care (PNC) (Ongolly & Bukachi, 2019). In Tanzania, male involvement in MHC services is also low, often due to traditional gender norms and discomfort around HIV testing (Maluka & Peneza, 2018). Similar trends are observed in Mwanza, Tanzania, and Dodoma, with low male participation linked to factors such as lack of information and poor family communication (Natai et al., 2020). In Uganda's Ibanda District and Wakiso, male involvement in MHC is minimal, impacted by cultural and environmental factors (Bagenda et al., 2021).

In Rwanda, a qualitative study revealed that few husbands assist their spouses with domestic activities or accompany them to ANC visits beyond the initial visit required for HIV testing (Tuyisenge et al., 2021). The National Institute of Statistics (NISR), in the 2019-20 Demographic Health Survey (DHS), reported that 47.2% of expectant mothers attended at least four ANC visits, 75% participated in PNC, and 96% of children were immunized. However, quantitative data on male involvement in MHC services in Rwanda remains limited, indicating a significant research gap (NISR, 2019).

In this context, the participation of men in matters related to maternal health care in Rwanda, particularly in the Rwamagana District, emerges as a crucial area of study. Traditional views on maternal health as a female-only domain are shifting, recognizing that the active participation of male partners can significantly enhance health outcomes. This inclusive approach aligns with global health initiatives, underscoring the need for strategies that encourage male involvement to create a supportive environment for maternal health. Despite the benefits, there is limited data on men's participation in MHC in Rwanda. As a result, the study sought to quantify and identify barriers male partners face when participating in MHC services in Rwanda.

## **Materials and methods**

### **Research design**

In this study, the researcher used a cross-sectional research design with both qualitative and quantitative research approaches.

### **Study population**

Participants were mothers who came to health centers seeking MHC services during the data collection period. According to maternity care data extracted from Rwamagana HC and AVEGA HC records for 2023, the total number of women who received MHC services at Rwamagana HC and AVEGA HC were 2520 mothers, which taken into account for proportionalities regarding health centers.

Concerning qualitative data, the study population included the husbands/partners of mothers who came to health centers seeking MHC services during the data collection period making a total of 2520 equating to the mothers.

### **Sample size**

Fischer formula was used and it is framed as follows:  $n = (Z)^2 P (1-P)/d^2$

We selected the maximum prevalence, which is 50%, as a prevalence of men involved in MHC in Rwanda because the prevalence of males involved in maternity health care in Rwanda is unknown (NISR, 2020). Z is the standard deviation, set at 1.96, corresponded to 95% CI. P is the percentage (prevalence). d: Marginal error

$$n = Z=1.96, P=50\%, d=0.05$$

$$n = (Z)^2 P (1-P)/d^2$$

$$n= 1.96^2*0.5(1-0.5)/0.05^2$$

n=384.16, which is approximately 385 wives, therefore

n= 385 women (The number of participant)

### **Sampling Technique**

This study used two sampling approaches in this study: stratified sampling, which means different groups (or strata) of the population are sampled with similar characteristics; here, each health center was represented proportional to the number of women seeking MHC in 2023; and simple random selection, where there is a fair likelihood that everyone in the population is chosen (Meng, 2021). Rwamagana district had fourteen health centers. Two of them were chosen since they are near the Rwamagana Level 2 teaching hospital. This led us to choose them because many women prefer them so that when any complications happen, they may be easily referred to the hospital. A quick introduction and description of the research were given to those seeking MHC during the data collection period. The consented women were asked to complete the questionnaire. Individuals who would participate in the study were obtained based on a simple random sampling technique after deep explanations and signing consent. The researcher visited a health center for

data collection based on the day's ANC, labor and delivery, PNC, and vaccination services provided.

### **Research instruments**

For quantitative data, a questionnaire was used to gather information relevant to its goals. The study employed a questionnaire adapted from a related study. The researcher distributed questionnaires to the participants and meticulously recorded their answers. The questionnaire collected a range of information, starting with elementary characteristics of the participants. Additionally, the questionnaire assessed involvement in antenatal care (ANC). Furthermore, the questionnaire evaluated participation in labor and delivery, focusing on elements such as creating collaborative plans, being present during labor and delivery. Participation in postnatal care includes accompanying the spouse to a health institution and developing collaborative plans for the PNC.

For qualitative data, an interview guide is the main instrument for data collection. Interview encompasses holding a one-on-one conversation between an interviewer (re-researcher) and an interviewee (respondent) in effort to acquire factual data from the sample respondents of the research (Bagenda et al., 2021). In this study, interview was held with husbands/partners of mothers who came to health centers seeking MHC services during the data collection. The interview guide captured information related to men's involvement in MHC services in Rwamagana District, Rwanda and the socio-economic factors that influence the involvement of males in MHC in Rwamagana District, Rwanda.

### **Reliability**

The level of consistency between two or more research instruments addressing the same problem is referred to as reliability. The test-retest technique was used to assess dependability of the questionnaires. Questionnaires were distributed to participants, and the same instruments distributed to the same individuals again after some time. The first administration's responses compared to the second administration's responses. The correlation coefficient was calculated using the scores from both testing periods. Cronbach's alpha, commonly known as the coefficient of reliability or stability, was computed. Cronbach alpha of 0.75 was judged adequate for the instrument to be dependable for the study (Meng, 2021).

**Validity**

The ability of a research tool to yield the expected results is referred to as validity (Taherdoost et al., 2016). A few qualified individuals were consented to and pretested in order to obtain precise, correct, and significant data, recruitment, and any necessary revisions to the questionnaires and processes for the research. The purpose of the pretesting is to check for errors and ambiguities in the questionnaires as well as to gauge how easily respondents understand and reply to questions. Any problems we uncovered prompted a revision of the questionnaires prior to the start of the real research activity.

**Data analysis procedure**

Data was entered into Excel and imported it into SPSS 21 for significance analysis. A high level of involvement was defined as husbands scoring over 50% based on their spouses' responses regarding husband involvement in MHC, while a low level was indicated by scores below 50%, following the UNFPA's guidelines for assessing male involvement in MHC services (UNFPA, 2018). Subsequently, bivariate analysis was performed to examine the association between different variables at a significance level of 5%. Those showing significant associations with the outcome variable were further analyzed using multivariate analysis to quantify these associations. The results were presented using APA-style tables to illustrate how various factors relate to the limited involvement of males in MHC services (Taherdoost et al., 2016). For qualitative data, the analysis was conducted and presented in narrative form based on the study's objectives, utilizing Atlas for qualitative data analysis.

**Ethical consideration**

Mount Kenya University approved the research study before it was carried out, along with a letter of approval from the Rwamagana district authority. The researcher ensured that the data collection process and ethical principles were upheld; therefore, personal information was not required on the data collection form. In sum, the search results did not provide relevant information specifically addressing the ethical approval processes or consent procedures related to the study. However, based on the information provided in your query, it is clear that the study adhered to ethical standards by obtaining ethical approval from Mount Kenya University and the Rwamagana district, ensuring that the heads of health centers were informed. Informed consent was mandatory

signed by all participants, emphasizing the confidentiality of their information, which was securely stored and not disclosed to any third parties. Additionally, the study maintained anonymity by not recording any names during data processing, analysis, reporting, or in the conclusions and recommendations. These practices reflect a commitment to ethical research conduct, protecting the rights and privacy of participants throughout the study.

## Findings

**Table 1. Male Involvement in Antenatal Care**

<b>Variables</b>	<b>Frequency (n=385)</b>	<b>Percentage</b>
<b>Number of ANC visits</b>		
Under 4 times	210	54.5
4 times and more	175	45.5
<b>Did your husband know the health facility where you attend ANC?</b>		
No	136	35.3
Yes	249	64.7
<b>Did your husband join you at ANC?</b>		
No	256	66.5
Yes	129	33.5
<b>If yes, how many times during your recent pregnancy?</b>		
Under 4 times	69	17.9
4 times and more	60	15.6
N/A	256	66.5
<b>Was your husband involved in making the decision concerning ANC?</b>		
No	248	64.4
Yes	137	35.6
<b>Did your husband help you to plan for emergencies?</b>		
No	138	35.8
Yes	247	64.2
<b>Did your husband hold conversation with the healthcare providers on your case?</b>		
No	268	69.6
Yes	117	30.4

<b>Did you receive support from your husband during the pregnancy?</b>		
No	47	12.2
Yes	338	87.8
<b>If yes, provide the kind of support?</b>		
No support	47	12.2
Helped in housekeeping tasks	171	44.4
Brought family members	40	10.4
Money for ANC	98	25.5
Arranged antenatal clinic dates and reminders	29	7.5

Source: Primary data, 2024

Table 1 shows that the study findings where 54.5% of women attended ANC 4 times during their recent pregnancy; about 64.7% of the male partners knew the health facility where they attended ANC; 33.5% of the husbands joined them at ANC where 15.6% joined them more than 4 times; 35.6% among the men participated in the decision related to ANC; 64.2% of the husbands helped them to plan for emergencies (like deciding on where to go during emergency, booking standby transport arrangement or providing money for emergencies); 30.4% of the husbands discussed health issues related to the pregnancy with the healthcare providers; 87.8% of the husbands provided support to them during the pregnancy including helping in housekeeping tasks, bringing other family members to support, providing money for ANC and arranging antenatal clinic dates and reminders.

**Table 2. Male Involvement in delivery and labor period**

<b>Variables</b>	<b>Frequency(n=385)</b>	<b>Percentage</b>
<b>Did you plan together with your husband about labor and delivery?</b>		
No	138	35.8
Yes	247	64.2
<b>Were you with your husband at the time of labor and delivery?</b>		
No	220	57.1
Yes	165	42.9
<b>If yes, did your husband join for labor and delivery?</b>		

No		356	92.5
Yes		29	7.5
<b>Did maternity staff allow partners to enter in the delivery room?</b>			
No		248	64.4
Yes		137	35.6
<b>Do you think husbands are allowable in the delivery room?</b>			
No		179	46.5
Yes		206	53.5
<b>What is the mode of delivery in your recent pregnancy?</b>			
Spontaneous vaginal delivery		278	72.2
Caesarean section		107	27.8

Source: Primary data, 2024

Table 2 demonstrated the study findings where 64.2% of the husbands planned together with their wives about labor and delivery; 42.9% of the husbands were with their wives at the time of labor and delivery with only 7.5% of them joining them for labor and delivery and 35.6% of the maternity staff allowing partners to enter in the delivery room; 53.5% of the mothers thought that husbands are allowable in the delivery room and the majority of the participants (72.2%) used spontaneous vaginal as their mode of delivery in their recent pregnancy.

**Table 3. Male Involvement in postnatal period**

Variables	Frequency (n=385)	Percentage
<b>How many times you attended PNC?</b>		
Under 2 times	154	40.0
2 times and more	231	60.0
<b>Did your partner escort you?</b>		
No	335	87.0
Yes	50	13.0
<b>If yes, how many times?</b>		
Under 2 times	30	7.8
2 times and more	20	5.2
N/A	335	87.0
<b>If no, why?</b>		

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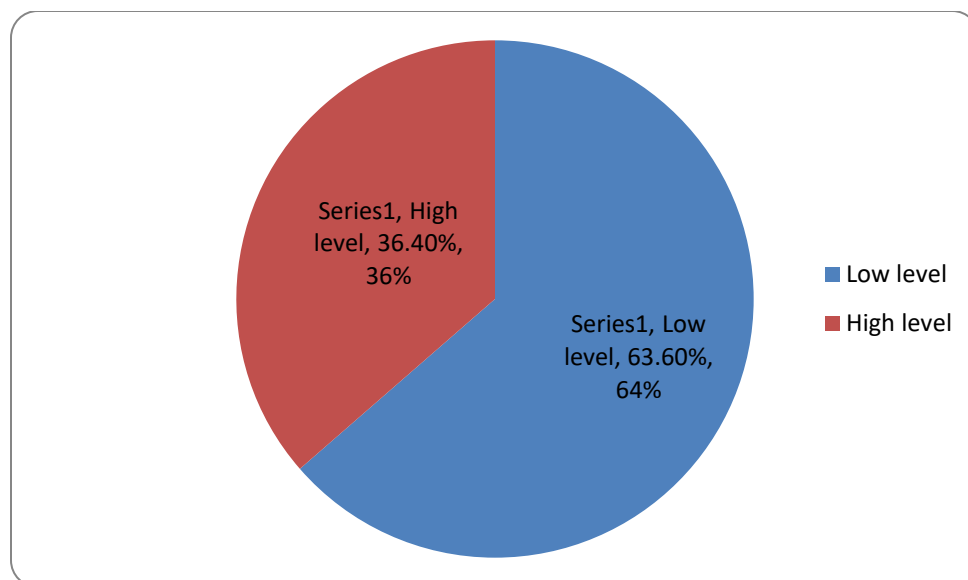
He did not consider it as necessary	165	42.9
He was busy with other tasks	200	51.9
N/A	20	5.2
<b>What do you think is hindering men from joining their partner regularly in MHC services?</b>		
They do not consider it as necessary	228	59.2
They are busy with other tasks	157	40.8

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Source: Primary data, 2024

Table 3 shows that 60% of the participants attended PNC 2 times and more but only 13% of the husbands escorted them; 42.9% of the participants said that their husbands did not consider it as necessary and 51.9% said that their husbands were busy with other tasks; 59.2% of the participants thought that men do not join their partners regularly in MHC services because they do not consider it as necessary and 40.8% consider that being busy with other tasks was hindering men from joining their partners in MHC services.

The responses regarding men's involvement in MHC in Rwamagana District, Rwanda, were categorized into high and low levels of involvement. As indicated, a high level of involvement was defined as husbands scoring over 50% on questions related to their participation in MHC services, while a low level was indicated by scores below 50%, as outlined in the UNFPA's guidelines for assessing male involvement in MHC services (UNFPA, 2018). This classification highlights the varying degrees of engagement among men in supporting maternal health initiatives, putting an emphasis on the need for targeted approaches to improve their participation.



**Figure 1. Male involvement in MCH services in Rwamagana District, Rwanda**

Source: Primary data, 2024

The findings showed that the husbands with low level of involvement in MCH services were 63.6% while the husbands with high level of involvement in MCH services were 36.4% as depicted in figure 1.

**Table 4.5 Bivariate analysis done for factors influencing the involvement of males in MHC**

Particulars	Male involvement		Chi-square	P-value
	Low n(%)	High n(%)		
<b>Age of the mother</b>			1.566	0.457
Under 21	78(59.5)	53(40.5)		
21-35	98(66.7)	49(33.3)		
Over 35	69(64.5)	38(35.5)		
<b>Age of the partner</b>			16.153	<b>0.001</b>
Under 21	87(60.4)	57(39.6)		
21-35	40(48.8)	42(51.2)		
Over 35	118(74.2)	41(25.8)		
<b>Age of the child in months</b>			2.841	0.242
0-12	106(60.2)	70(39.8)		
13-36	68(63)	40(37)		
37-60	71(70.3)	30(29.7)		

<b>Number of children</b>			0.412	0.814
1	47(61)	30(39)		
2-4	146(64.9)	79(35.1)		
5 and more	52(62.7)	31(37.3)		
<b>Distance to health facility</b>			14.817	<b>0.001</b>
Under 30 minutes	36(28.1)	92(71.9)		
30 min-1 hour	137(80.1)			
More than 1 hour	72(83.7)	34(19.9)		
<b>Religion</b>			3.342	0.188
Christian	134(62)	113(38)		
Muslim	31(63.3)	18(36.7)		
Others	30(76.9)	9(23.1)		
<b>Mother status</b>			28.476	<b>0.001</b>
Unmarried	74(97.4)	2(2.6)		
Married	125(50.6)	122(49.4)		
Divorced/Separated/Widow	46(74.2)	16(25.8)		
<b>Education of the husband</b>			10.031	<b>0.018</b>
No formal education	71(71)	29(29)		
Primary	102(60.4)	67(39.6)		
Secondary	53(70.7)	22(29.3)		
University	19(46.3)	22(53.7)		
<b>Family income</b>			22.077	<b>0.001</b>
<15,000 Rwf	106(85.5)	18(14.5)		
15,001-100,000 Rwf	99(62.3)	60(37.7)		
100,001-500,000 Rwf	25(40.3)	37(59.7)		
>500,000 Rwf	15(37.5)	25(62.5)		
<b>Husband's occupation</b>			20.220	<b>0.001</b>
Unemployed	16(84.2)	3(15.8)		
Trader	91(67.9)	43(32.1)		
Agriculture/Farmer	119(65.7)	62(34.3)		
Private/Public Office Servant	19(37.3)	32(62.7)		
<b>Type of pregnancy</b>			20.357	<b>0.001</b>
Unplanned pregnancy	177(72)	69(28)		
Planned pregnancy	68(48.9)	71(51.1)		

Source: Primary data, 2024

Age of the partner, distance to health facility, marital status, husband education, family income, husband occupation and type of pregnancy were the sociodemographic factors associated statistically with the involvement of men in MCH services ( $p < 0.05$ ). For age of the partner, a

higher proportion of males involved in MCH services was found among those aged between 21 and 35 years old (51.2%). Similarly, significant associations were found between the locations of households and male involvement in MCH services, with the highest involvement observed among those using under 30 minutes to go to the nearest health facility (71.9%). Regarding marital status, married husbands exhibited a higher level of involvement in MCH services (49.4%) compared to unmarried husbands (2.6%). Regarding partner education, individuals with higher levels of education (university) exhibited a higher level of involvement in MCH services (53.7%) contrasting with those with primary and no formal education. Concerning the family income, individuals with higher income (more than 500,000 Rwf) showed a higher level of involvement in MCH services (62.5%) compared to those from the poorest families (14.5%). Similarly, significant associations were found between the occupations of the husbands and male involvement in MCH services, with the highest involvement observed among Private/Public Office Servants (62.7%). And also, the highest involvement was observed among the families having planned for their pregnancy (51.1%).

**Table 4.6 Multivariate analysis done for factors influencing the involvement of males in MHC**

Details	AOR	95% C.I		P-value
		Lower	Upper	
<b>Age of the partner</b>				
Under 21	Ref.			
21-35	3.022	1.726	5.291	.001
Over 35	1.886	1.158	3.071	.011
<b>Distance to health facility</b>				
Under 30 minutes	3.143	2.592	8.205	.001
30 min-1 hour	1.276	.644	2.531	.485
More than 1 hour	Ref.			
<b>Mother status</b>				
Unmarried	Ref.			
Married	6.112	2.672	8.372	.001
Divorced/Separated/Widow	2.870	1.828	4.569	.002
<b>Education of the husband</b>				
No formal education	<b>Ref.</b>			
Primary	1.608	.946	2.734	.079
Secondary	1.016	.526	1.963	.962
University	2.835	1.338	6.005	.007
<b>Family income</b>				

<15,000 Rwf	<b>Ref.</b>			
15,001-100,000 Rwf	2.569	1.971	4.462	.001
100,001-500,000 Rwf	4.716	2.276	7.765	.001
>500,000 Rwf	6.815	3.357	9.108	.001
<b>Husband's occupation</b>				
Unemployed	<b>Ref.</b>			
Trader	2.520	.697	9.113	.001
Agriculture/Farmer	2.779	.780	9.902	.001
Private/Public Office Servant	6.982	2.311	12.910	.001
<b>Type of pregnancy</b>				
Unplanned pregnancy	<b>Ref.</b>			
Planned pregnancy	2.678	1.736	4.132	0.001

Source: Primary data, 2024

The analysis shown in Table 4.6 quantifies the strength of association between various independent variables and the involvement of men in MCH. The analysis reveals several key findings: Husbands aged 21-35 years had 3 times more chances of being involved in MCH services compared to younger husbands (AOR=3.0, 95% CI: 1.726, 5.291, P=0.001). Husbands living within a 30-minute distance from a health facility had 3.1 times more chances of being involved contrasting with those living over an hour away (AOR=3.1, 95% CI: 2.592, 8.205, P=0.001). Married husbands had 6 times more chances of being involved than unmarried husbands (AOR=6.1, 95% CI: 2.672, 8.372, P=0.001). University-educated husbands had 2 times more chances of being involved compared to uneducated husbands (AOR=2.8, 95% CI: 1.338, 6.005, P=0.007). Husbands earning over 500,000 Rwf monthly had 6.8 times more chances of being involved than those earning under 15,000 Rwf (AOR=6.8, 95% CI: 3.357, 9.108, P=0.001). Employed husbands had 6.9 times more chances of being involved than unemployed husbands (AOR=6.9, 95% CI: 2.311, 12.910, P=0.001). Husbands who planned the pregnancy with their wives had 2.6 times more chances of being involved in MCH services (AOR=2.6, 95% CI: 1.736, 4.132, P<0.001). These results highlight the significant influence of socio-economic factors, such as age, distance to health facilities, marital status, education level, income, employment status, and pregnancy planning, on the involvement of men in MCH services. Understanding these associations is crucial for developing targeted interventions to promote greater male participation in maternal and child health initiatives, ultimately leading to improved health outcomes for families in the Rwamagana District of Rwanda.

### Findings for qualitative data

### **Involvement of men in MHC Services**

The data revealed that the frequency of the involvement of men in ANC visits varies significantly among respondents. While some men reported escorting their partners to every ANC visit, others indicated less frequent participation, citing work commitments or lack of awareness as reasons. One respondent shared, *"I try to go with my wife to every visit, but sometimes my work schedule doesn't allow it."* Another noted, *"I didn't know it was important to go every time, I thought just a few visits were enough."*

### **Type of Support Provided**

The majority of respondents indicated providing emotional and logistical support during pregnancy, such as ensuring their partners attend medical appointments and assisting with household chores. However, involvement in postnatal care activities was less common. *"I help my wife with cooking and cleaning during her pregnancy, but after the baby is born, I don't really know what to do,"* admitted one participant. Another stated, *"I believe my role is to support her during pregnancy; after that, she manages the baby mostly on her own."*

### **Decision-Making**

The involvement of men in decision-making regarding MHC was reported to be moderate to high. Many participants said that they participated in decisions about their partner's health care, including the choice of health facility for delivery. However, some respondents highlighted that their involvement was more about providing consent than initiating discussions. One man mentioned, *"I make sure we discuss and agree on where she will give birth. It's important to me."* Another said, *"I mostly agree with what my wife wants; she knows more about what she needs."*

### **Health Education Participation**

Attendance at health education sessions related to MHC was found to be relatively low among respondents. Those who had attended such sessions reported varying frequencies. *"I went to a couple of sessions, but they were during my work hours,"* one man explained. Another added, *"The sessions are helpful, but I need more information on how to support my wife practically."*

### **Awareness and Knowledge**

Knowledge levels about maternal health care services varied significantly among the respondents. Some men were well-informed about the services available in their community, while others had limited awareness. *"I know about the services because the health center is nearby, and they provide good information,"* said one respondent. Another confessed, *"I rely on my wife for information; I haven't attended any sessions myself."*

### **Barriers to Involvement**

Commonly cited barriers to increased male involvement included work-related constraints, lack of awareness, cultural norms, and discomfort in health care settings. One participant noted, *"My job makes it hard to be there for all appointments."* Another mentioned, *"In our culture, men don't usually go to these appointments, so it feels strange for me."*

### **Factors that Influence the Involvement of Males in MHC**

#### **Economic Status**

Employment status emerged as a significant factor affecting the involvement of men in MHC. Men with stable employment reported more difficulty in accompanying their partners to health appointments due to inflexible work schedules. *"My boss doesn't understand why I need to go to the hospital with my wife,"* one respondent stated. Financial constraints were also noted, with some men indicating that costs associated with health care services deterred their participation. *"Sometimes we can't afford the transport to the clinic,"* said another.

#### **Educational Background**

Respondents with higher educational backgrounds demonstrated greater involvement in MHC services. Education appeared to enhance understanding of the value of the involvement of men in MHC. *"I learned in school how important it is to support my wife,"* one man mentioned. Conversely, men with lower educational attainment expressed uncertainty about their role. *"I didn't go to school much, so I don't know what I'm supposed to do,"* another confessed.

#### **Cultural Beliefs**

Cultural beliefs and practices were identified as significant determinants of the involvement of men in MHC. In some communities, traditional gender roles limited the participation of men in

MHC. "Men don't usually do these things in our culture," one respondent explained. These cultural norms often discouraged men from attending health appointments or engaging in caregiving activities. "People might think I'm not manly if I go to the clinic with my wife," another admitted.

### **Health System Factors**

The behaviors and attitudes of health care providers were found to influence male involvement. Men who felt welcomed and supported by health care staff were more likely to participate actively. "The nurses are friendly and encourage me to be involved," one participant noted. However, reports of dismissive or unwelcoming attitudes deterred some men. "I felt out of place and not needed when I went to the clinic," one man shared.

### **Social Support**

The level of support from family and friends played a crucial role in male involvement. Men who received encouragement from their social networks were more engaged. "My family tells me it's good to be there for my wife," one respondent said. Peer support groups that promote male involvement were seen as beneficial. "Talking with other men who are involved helps me see the importance," another noted.

### **Workplace Policies**

Workplace policies significantly impacted the ability of males to participate in MHC services. Men with access to paternity leave or flexible work schedules reported higher levels of involvement. "My employer gives me time off for important family matters," one respondent stated. The absence of supportive workplace policies was a major barrier. "I wish my job allowed for more flexibility; it would make things easier," another explained.

### **Discussion**

#### **The proportion of men involved in MHC**

The study aimed to quantify the involvement of men in MHC and evaluate socio-economic factors which influence the involvement of males in MHC in Rwamagana district of Rwanda. The study conducted in Rwamagana District, Rwanda, revealed that 63.6% of husbands had a low level in matters related to their involvement in MCH services, while 36.4% had a high level of

involvement. This can be compared to similar studies in other regions to understand broader trends and variations in paternal involvement in MCH services.

Higher findings were found in a research done by Mbekenga et al. (2019) and Peneza and Maluka (2018) in Tanzania showed higher paternal involvement in MCH services, with about 50% of husbands actively participating in antenatal care visits. This increased involvement can be attributed to targeted community health programs that emphasize the importance of paternal involvement. For instance, the "Male Champions" initiative encourages men to escort their wives to clinics and participate in health education sessions. These efforts highlight how focused interventions can significantly improve participation rates.

In contrast, a study of Ijadunola et al. (2020) in Nigeria revealed lower involvement, with only 20% of husbands participating in MCH services. This disparity are due to cultural norms and traditional beliefs that view maternal health as solely the woman's responsibility. The study found that many men felt that attending MCH services was not their role, which is a significant barrier to increasing paternal involvement. This difference compared to the Rwandan study underscores the influence of cultural factors on paternal engagement in MCH.

### **Factors influencing the involvement of males in MHC**

The study findings from Rwamagana District, Rwanda, reveal various factors associated with the involvement of men in MCH. These factors include age, proximity to health facilities, marital status, education level, income, employment status, and pregnancy planning. Concerning age and male involvement, this study found that husbands aged between 21 and 35 years had three times more chances of being involved in MCH services in contrast with their younger counterparts as shown in this study (AOR=3.0, 95% CI: 1.726, 5.291, P=0.001). A study conducted by Ogunjuyigbe (2019) in Nigeria showed similar results, where younger husbands (below 35 years) were more involved in MCH activities due to their better understanding of modern health practices and greater acceptance of changing gender roles (Ogunjuyigbe, et al., 2019).

Concerning proximity to Health Facilities, this study found that husbands in Rwamagana District who took under 30 minutes to reach the clinic had 3.1 times more chances of being involved in MCH services in comparison with those who took more than an hour (AOR=3.1, 95% CI: 2.592, 8.205, P<0.001). Similar results were reported in a study from Kenya, where shorter travel time to

health facilities significantly increased male involvement in MCH services (Kwambai, et al., 2019). Accessibility to healthcare facilities is a crucial determinant in ensuring consistent participation in MCH activities.

Concerning employment status, this study showed that husbands who were private or public office servants had seven times more chances of being involved in MCH services than unemployed husbands (AOR=6.9, 95% CI: 2.311, 12.910,  $P<0.001$ ). This finding aligns with research from Uganda, where employed men demonstrated higher involvement in MCH services due to stable financial resources and structured schedules that allowed participation (Byamugisha, et al., 2020).

Finally, this study indicated that husbands who planned the pregnancy with their wives were twice as apt to be involved in MCH services (AOR=2.6, 95% CI: 1.736, 4.132,  $P<0.001$ ). Research in Nepal similarly found that joint pregnancy planning significantly increased the involvement of men in MCH, emphasizing the role of shared decision-making in family health (Ditekemena, et al., 2022).

In sum, the results from this study show key factors influencing the involvement of males in MCH services, including age, proximity to health facilities, marital status, education, income, employment status, and pregnancy planning. These factors are consistent with findings from other regions, emphasizing the importance of socio-demographic and economic determinants in shaping male participation in MCH services. Addressing these factors through targeted interventions, policy changes, and community education can enhance male involvement in MCH services globally.

However, the study conducted in Rwamagana District, Rwanda, has several limitations. Firstly, the use of self-reported data may introduce bias, as participants might overstate or understate the involvement of their partner in MCH due to social desirability or recall bias. Additionally, the study is geographically limited to 1 district, which may not be representative of other regions in Rwanda or other countries, thus limiting the generalizability of the findings. Lastly, the study may not have accounted for all potential confounding factors that could influence the involvement of males in MCH, such as cultural beliefs and practices.

## **Conclusion**

In conclusion, the study conducted in Rwamagana District, Rwanda, revealed a low level of the involvement of males in MCH services among husbands. It also identifies several key factors associated with the involvement males in MCH. Younger husbands aged 21 to 35, those who have easier access to health facilities, are married, educated, have higher incomes, are employed, and have planned pregnancies with their wives are more likely to participate actively in MCH services. These findings show the significance of addressing socio-economic and accessibility barriers to enhance male involvement in MCH, which is vital in improving MCH outcomes. Tailored interventions targeting these factors can effectively increase paternal participation in MCH services, ultimately contributing to better health for mothers and children.

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### **Author Contributions**

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Dataset was shared.

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