

# Social demographic determinants of male participation in antenatal care in Nyamagana District, Tanzania

**Sarah M. Chamos,<sup>1</sup> Alen Kinyina<sup>2</sup> and  
Harrieth Mtac<sup>3</sup>**

1. Arusha International Conference Centre Hospital, Tanzania
2. University of Wolverhampton, UK
3. Open University of Tanzania

**Correspondence:**

Sarah Mohamed Chamos.  
[chamossarah@gmail.com](mailto:chamossarah@gmail.com)

**Submitted:** September 2021

**Accepted:** July 2022

**Published:** August 2022

## ABSTRACT

**Introduction:** Globally, poor male participation in antenatal care (ANC) and reproductive health issues is still a challenge towards improvement of maternal and child health. Quality antenatal care and birth outcomes depend on the shared responsibility between men and women.

**Objectives:** The aim of this study was to assess the level of male participation in ANC and the associated social demographic determinants.

**Method:** The study was cross-sectional and was based in the community in the Nyamagana district, Tanzania. Male partners aged 18–49 years were interviewed using the four dichotomized (yes or no) variables to determine the level of male participation in ANC. The data were analyzed by using the Statistical Package for Social Sciences (SPSS Version 24). Chi-square test was used to determine the association between demographic characteristics and the level of male involvement in ANC.

**Results:** The level of male participation was high in this study (76.3%). Men with a primary level of education were twice (AOR 2.15, 95% CI [1.15–4.02], p-value 0.01) as likely to participate in ANC compared to men with no formal education. If the number of children was more than two, there was a significant association with male participation in ANC (OR 1.57, 95% CI [1.12–1.77], p =0.02).

**Conclusion:** The level of male participation in ANC is high in Nyamagana district. The number of children and level of education are social demographic determinants of male participation in ANC.

**Key words:** Male participation, Antenatal care, Pregnancy, Tanzania

## INTRODUCTION

The provision of quality antenatal care (ANC) services involving men contributes to the empowerment of women and the achievement of the Sustainable Development Goals (SDGs) by reducing maternal and neonatal deaths.<sup>[1]</sup> However, the level of male participation in reproductive health issues, including ANC in sub-Saharan Africa (SSA), is still challenging.<sup>[1]</sup>

The necessity to include male partners in reproductive, maternal and child health care was established by the International Conference on Population and Development (ICPD) held in 1994 in Cairo, Egypt. This prompted nations to make special efforts to encourage men to share responsibility for safe motherhood and to emphasize their active involvement in sexual and reproductive health behaviours, including participation in ANC and family planning.<sup>[1,2]</sup>

The World Health Organization (WHO) in 2015 set out recommendations on health interventions to promote maternal and newborn health to meet SDG 3.

**Citation:** Chamos et al. Social demographic determinants of male participation in antenatal care in Nyamagana District, Tanzania. South Sudan Medical Journal 2022;15(3):92–96 © 2022 The Author (s)

**License:** This is an open access article under [CC BY-NC](#) DOI:  
<https://dx.doi.org/10.4314/ssmj.v15i3.3>

One of the recommendations urged the promotion of active involvement of men during ANC, childbirth and postnatally.<sup>[3]</sup> In response to poor male involvement in ANC, Tanzania launched a male involvement strategy in 1994 with the intention of including men in all aspects of maternal and child health (MCH).<sup>[4]</sup>

The Tanzania Health Sector Strategic plan 2015–2020 (HSSP IV) and The National Road Map Strategic Plan to Accelerate Reduction of Maternal, Newborn and Child Deaths in Tanzania 2008-2015 highlight the responsibility of men in supporting their partners to improve their demand for, and access to, quality health services.<sup>[4]</sup> In the Mwanza region maternal mortality approaches at 305 per 100,000 live births while the proportion of mothers who give birth without skilled birth attendants is 54%.<sup>[5]</sup>

Out of the seven districts in the Mwanza region, Nyamagana has the highest maternal mortality rate contributing about 42% of all maternal deaths in the region.<sup>[5]</sup> Nkya and Kohi<sup>[5]</sup> highlighted some factors linked to high maternal mortality in the district that include underutilization of maternal healthcare services and poor knowledge about danger signs during pregnancy.

Despite the advantages of male participation in improving maternal health outcomes, the level of male participation remains low, suggesting barriers that hinder male participation.<sup>[6]</sup> This study aimed to identify the level and report the social demographic determinants of male involvement in ANC in Nyamagana district.

## METHOD

### Study design, area, and period

This study was cross sectional based in the community and conducted from May to July 2021 in Nyamagana which is one of the seven districts of Mwanza region in Tanzania. The district comprises eleven wards and one division. In 2012, the population of the Nyamagana district was 363,452.<sup>[7]</sup> It has four hospitals, seven health centres, 17 dispensaries, four maternity homes, and seven private clinics.<sup>[5]</sup> The district was selected for this study due to a high rate of maternal mortality which may be attributed to the poor utilization of maternal health services.

### Population and eligibility criteria

Eligible participants were men aged 18-49 years having a partner with a child born within two years and residing in the selected areas. Exclusion criteria were critical illness, inability to talk or a man with hearing impairment during interview.

### Sampling techniques

With the help of Ward Executive Officers (WEO), a

list of all wards in the district was obtained. Six villages were selected from the master list: two from rural, two from semi-urban and two from urban areas to ensure a wide representation. Inclusion of respondents was by random selection of households in each village. Eligible men present in the household at the time of the visit, and who consented to participate, were interviewed until we reached the sample size.

### Study variables

The main outcome variable was the level of male participation in ANC. The predictor variables were age, level of education, religion, employment status, marital status and number of children.

### Measurement of variables

The participation of men index was calculated using four dichotomized (yes or no) variables:

1. Accompanying his partner to ANC services at least twice during pregnancy
2. Providing financial support during pregnancy
3. Discuss together on where and when to go for ANC services
4. Jointly discuss maternal and newborn health outcomes with health care providers (HCPs).

We used the four variables to determine the level of male participation in ANC service, whereby each variable scored one if done and zero if not done. A summation of scores were calculated by adding scores of each variable done by a participant. The level of male participation was categorized as low with a score 0-2 and classified as high with a score of 3-4. Previous studies applied this approach of categorization.<sup>[1]</sup>

### Data analysis

Data analyses were performed using the Statistical Package for Social Sciences (SPSS Version 24). Chi-square test was used to indicate significant associations between male participation in ANC and the demographic characteristics. The level of significance was set at p-value <0.05.

**Ethical consideration:** Ethical approval was obtained from the Open University of Tanzania.

## RESULTS

### Level of male participation in ANC

Level of male participation in ANC was assessed by the variables shown in Figure 1. From a total of 201 respondents, 76.3% reported a high level of participation in ANC. Figure 2 indicates most participants (87%)

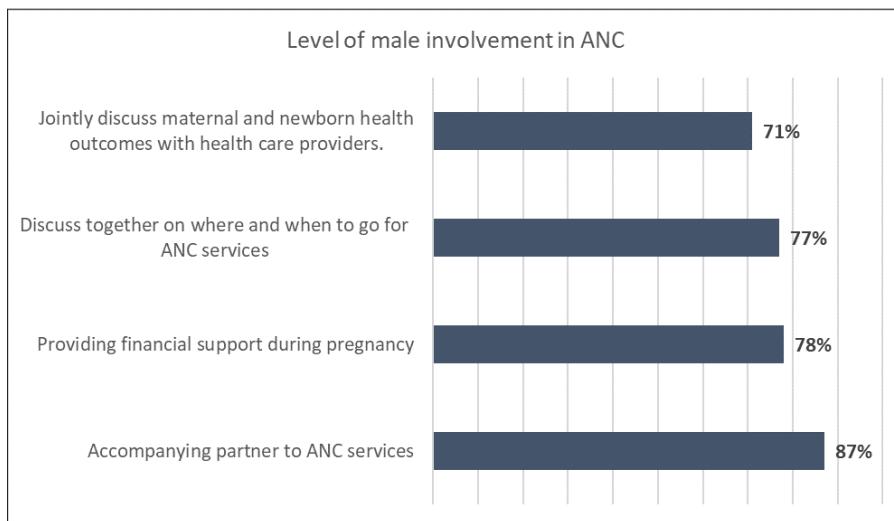


Figure 1. Level of male participation in ANC in four classified variables.

accompany their partners to ANC services. Most of the participants (78%) provided financial support during pregnancy. The majority of the respondents (77%) discuss with their partners about when and where to go for ANC services, while 71% of the respondents jointly discuss about maternal and newborn health outcomes with HCPs.

#### Social demographic determinants of male participation in ANC

Table 1 indicates that the demographic factors of respondents including level of education (p-value 0.003), number of children(p-value 0.011) and

Table 1. Social-demographic determinants of male participation in ANC

	Male Participation in ANC			Chi-square	p-value
	Yes n(%)	No n(%)	Total n		
<b>Age (years)</b>					
18-29	52(86.7)	8(13.3)	60	4.225	0.143
30-39	89(77.4)	26(22.6)	115		
40-49	12(46.2)	14(53.8)	26		
<b>Number of children</b>					
1-2	71(76.1)	37(34.3)	108	6.513	0.011
≥3	82(88.2.)	11(11.8)	93		
<b>Level of education</b>					
No formal education	13(68.4)	6(31.6)	19	13.103	0.003
Primary	105(76.1)	33(23.9)	138		
Secondary and above	35(79.5)	9(20.5)	44		
<b>Employment status</b>					
Not employed	41(71.9)	16(28.1)	57	4.612	0.131
Self employed	94(81.7)	21(18.3)	115		
Employed civil / private sector	18(62.1)	11(37.9)	29		
<b>Marital Status</b>					
Single	22(78.6)	6(21.4)	28	4.674	0.103
Married	111(75.0)	37(25.0)	148		
Separated	20(80.0)	5(20.0)	25		
<b>Religion</b>					
Christian	99(75.0)	33(25.0)	132	6.117	0.019
Islamic	54(78.3)	15(21.7)	69		
<b>Total</b>	<b>153(76.3)</b>	<b>48(23.7)</b>	<b>201</b>		

**Table 2. Multivariate analysis of social demographic determinants of male participation in ANC**

Variables	COR (95%CI)	p-value	AOR (95%CI)	p-value
<b>Level of education</b>				
No formal education	1			
Primary	2.41(1.12-3.91)	0.009	2.15(1.15–4.02)	0.01
Secondary and above	1.47(1.11-2.01)	0.013	1.45(1.07–2.45)	0.04
<b>Number of children</b>				
1-2	1			
≥3	1.51(1.16-1.69)	0.042	1.57(1.12–1.77)	0.02
<b>Religion</b>				
Christian	1			
Islamic	0.36(0.63-2.71)	0.051	0.56(0.49-2.71)	0.06

religion (p-value 0.019) were significantly associated with level of male participation in ANC.

#### Multivariable analysis of social demographic determinants of male participation in ANC

Men's level of education and number of children in a family were associated with their participation in ANC (Table 2). Men with primary level of education were twice (OR 2.15, 95% CI [1.15–4.02], p 0.01) as likely to participate in ANC compared to men with no formal education. In addition, men with secondary or higher level of education were more likely to report high male involvement in ANC (Table 2)

The number of children showed a significant association with male participation in ANC. Men with more than two children were more likely to participate in ANC compared to those with less than three children (OR 1.57, 95% CI [1.12–1.77], p =0.02).

#### DISCUSSION

This study found that 76.3% of men were participating in ANC. This is higher than the 70% reported in a study from Ghana<sup>[6]</sup> but much higher than data from Mwanza city (54.4%)<sup>[8]</sup> and Dodoma , Tanzania (53.9%).<sup>[1]</sup>

The high male participation in ANC in this study may be influenced by some health projects support in the district such as the USAID Boresha Afya programmes. These programmes adopted a household-centred design approach that ensured not only male participation in maternal health services, but also all other members of the household.<sup>[9]</sup> The programme aimed to maximise the involvement of male partners in all issues around maternal and child healthcare including ANC, post-natal care and family planning services.<sup>[9]</sup>

The present study found that the level of education of a male partner was significantly associated with participation in ANC. The influence of basic education in the male involvement in ANC and other reproductive health services is reported in the similar study which was conducted in Tanzania.<sup>[1]</sup> Enhanced education may well have increased their basic knowledge and understanding of the advantages of supporting women during pregnancy. Hence, it appears that achieving at least a primary level of education significantly increases the likelihood of male participation in ANC.

The number of children is another factor that was reported in this study as a determinant of male participation in ANC. Previous studies indicated that families with few children or primipara have more follow up with ANC services.<sup>[10]</sup> However, in the present study, men with more than three children were more likely to be participants in ANC compared to those with less than three children. This finding may be explained by the fact that men with more children are more likely to be exposed to several health promotion sessions in previous ANC visits.

The positive experience in previous visits was reported to raise awareness and motivate men to participate in MCH and provide support in the subsequent pregnancy.<sup>[11]</sup> This indicates that as male partners are exposed to health education sessions there is an increase in the likelihood of participating in ANC. Other studies have reported that the number of children was not associated with the level of male participation in ANC.<sup>[1,8]</sup> These discrepancies should be assessed and explained with other strong study methodologies preferably the use of mixed methods of both qualitative and quantitative design.

#### CONCLUSION

The number of children and level of education are

determinants of male participation in ANC. There is a need for the government and stakeholders to promote appropriate instruction that will facilitate improvement of health outcomes in families and nationally.

## References

1. Nyasiro G, Bali T, Kibusi S. Factors influencing men's involvement in antenatal care services: a cross-sectional study in a low resource setting, Central Tanzania. *Reprod Health J* 2019;16:52 <https://doi.org/10.1186/s12978-019-0721-x>
2. United Nations. Report of the International Conference on Population and Development. [https://www.un.org/development/desa/sites/www.un.org.development.desa.pd/files/icpd\\_en.pdf](https://www.un.org/development/desa/sites/www.un.org.development.desa.pd/files/icpd_en.pdf)
3. World Health Organization. Recommendations on health promotion interventions for maternal and newborn health. [http://apps.who.int/iris/bitstream/handle/10665/172427/9789241508742\\_report\\_eng.pdf](http://apps.who.int/iris/bitstream/handle/10665/172427/9789241508742_report_eng.pdf)
4. United Republic of Tanzania. The national road map strategic plan to accelerate reduction of maternal, newborn and child deaths in Tanzania 2008–2015. <https://www.who.int/pmnch/countries/tanzaniemapstrategic.pdf>
5. Nkya E, Kohi TW. The Factors Affecting the Level of Women's Awareness of Birth Preparedness and Complication Readiness in the Lake Zone, Tanzania: A Cross-sectional Study. *Int J Community Based Nurs Midwifery*. 2021;9(1):30-43 <https://dx.doi.org/10.30476%2FIJCBNM.2020.86311.1336>
6. Yvonne A, Thomas H, Bright OA, et al. Perception of pregnant women on barriers to male involvement in antenatal care in Sekondi, Ghana, *Heliyon* 2020;6:7 <https://doi.org/10.1016/j.heliyon.2020.e04434>
7. National Bureau of Statistics (NBS). Tanzania demographic and health survey. [https://dhsprogram.com/pubs/pdf/FR243/FR243\[24June2011\].pdf](https://dhsprogram.com/pubs/pdf/FR243/FR243[24June2011].pdf)
8. Natai CC, Gervas N, Sikira FM, et al. Association between male involvement during antenatal care and use of maternal health services in Mwanza City, Northwestern Tanzania: a cross-sectional study. *BMJ Open* 2020;10:e036211. <http://dx.doi.org/10.1136/bmjopen-2019-036211>
9. Jacqueline M ,USAID Boresha Afya Annual Performance Report 2018. <https://www.prb.org/wp-content/uploads/2020/03/tulonge-afya-media-reach-17.pdf>
10. Tsegaye B, Ayalew M. Prevalence and factors associated with antenatal care utilization in Ethiopia: an evidence from demographic health survey 2016. *BMC Pregnancy Childbirth* 2020; 20:528 <https://doi.org/10.1186/s12884-020-03236-9>
11. Kaye DK, Kakaire O, Nakimuli A, Osinde MO, Mbalinda SN, Kakande N. Male involvement during pregnancy and childbirth: men's perceptions, practices and experiences during the care for women who developed childbirth complications in Mulago Hospital, Uganda. *BMC pregnancy and childbirth*. 2014 Dec;14(1):1-8. <https://doi.org/10.1186/1471-2393-14-54>