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Family planning decision-making among young males in Southern Africa

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Abstract

Male partners play a crucial role in reproductive health matters and seem to be identified as the main contributors responsible for the large proportion of poor reproductive health suffered by their female partners. Limited evidence exists, however, on effective strategies to increase male involvement in family planning. Therefore, this study aims to examine the prevalence and factors associated with male involvement in family planning decisions. Using recent data from Demographic and Health Surveys of seven countries in Southern Africa (Lesotho, Malawi, Mozambique, South Africa, Tanzania, Zambia and Zimbabwe), age, education, wealth index, religion, occupation, exposure to media, contraceptive knowledge, and sex of household head showed significant associations of male involvement in family planning, and these associations differed by country. By country, the adjusted odds ratio (AOR) showed that education (Malawi (primary) AOR: 1.12; 95% CI: 0.91–1.38; South Africa (secondary/ higher) AOR: 1.44; 95% CI: 0.95–2.19), religion (Lesotho (Muslim) AOR: 2.10; 95% CI: 0.54–8.12; Zambia (Muslim) AOR: 1.01; 95% CI: 0.69–1.49; Zambia (Traditional) AOR: 1.06; 95% CI: 0.77–1.47), marital status (Malawi (widowed) AOR: 1.06; 95% CI: 0.55–2.05; Lesotho (divorced/separated) AOR: 1.18; 95% CI: 0.84–1.66; Mozambique (divorced/separated) AOR: 1.03; 95% CI: 0.80–1.33), and sex of household head (South Africa (female) AOR: 1.11; 95% CI: 0.96–1.27) were significant predictors of male involvement in family planning decision-making in Southern African countries. Certain socio-economic factors such as wealth status (Malawi (middle) AOR: 1.04; 95% CI: 0.91–1.19, $\rho < 0.05$; South Africa (Rich) AOR: 1.06; 95% CI: 0.91–1.23), and occupational status (Mozambique (working) AOR: 1.12; 95% CI: 0.97–1.29) were found to be positively associated with males' participation in family planning decision-making in Malawi, South Africa and Mozambique. Suggested strategies include programmes targeting couples jointly and family planning education for men provided by male outreach workers, especially in communities at the grassroots level. Therefore, to encourage men's involvement and approval of family planning, community-based intervention programmes that openly target men are required to reduce stigma and misconceptions and boost consciousness of the advantages of family planning utilization. *(Afr J Reprod Health 2023; 27 [10]: 16-35).*

Keywords: Family planning, male involvement, reproductive health, Southern Africa

Résumé

Les partenaires masculins jouent un rôle crucial en matière de santé reproductive et semblent être identifiés comme les principaux contributeurs responsables de la grande proportion de mauvaise santé reproductive subie par leurs partenaires féminines. Cependant, il existe peu de preuves sur les stratégies efficaces pour accroître la participation des hommes à la planification familiale. Par conséquent, cette étude vise à examiner la prévalence et les facteurs associés à l'implication des hommes dans les décisions de planification familiale. En utilisant des données récentes d'enquêtes démographiques et sanitaires de sept pays d'Afrique australe (Lesotho, Malawi, Mozambique, Afrique du Sud, Tanzanie, Zambie et Zimbabwe), l'âge, l'éducation, l'indice de richesse, la religion, la profession, l'exposition aux médias, les connaissances en matière de contraception et le sexe du chef de ménage a montré des associations significatives de l'implication des hommes dans la planification familiale, et ces associations différaient selon les pays. Par pays, l'odds ratio (AOR) ajusté a montré que l'éducation (AOR au Malawi (primaire) : 1,12 ; IC à 95 % : 0,91–1,38; AOR en Afrique du Sud (secondaire/ supérieur) : 1,44 ; IC à 95 % : 0,95 –2,19), religion (RCA du Lesotho (musulman) : 2,10 ; IC à 95 % : 0,54–8,12; RCA de la Zambie (musulmane) : 1,01 ; IC à 95 % : 0,69–1,49; Zambie (traditionnel) AOR : 1,06 ; IC à 95 % : 0,77–1,47), état matrimonial (Malawi (veuve) AOR : 1,06 ; IC à 95 % : 0,55–2,05; Lesotho (divorcé/séparé) AOR : 1,18 ; IC à 95 % : 0,84–1,66; Mozambique (divorcé/séparé) AOR : 1,03 ; IC à 95 % : 0,80–1,33) et le sexe du chef de ménage (Afrique du Sud (fémme) AOR : 1,11 ; IC à 95 % : 0,96-1,27) étaient des prédicteurs significatifs de l'implication des hommes dans la prise de décision en matière de planification familiale dans les pays d'Afrique australe. Certains facteurs socio-économiques tels que le statut de richesse (Malawi (moyen) AOR : 1,04 ; IC à 95 % : 0,91-1,19; Afrique du Sud (riche) AOR : 1,06 ; IC à 95 % : 0,91-1,23), et le statut professionnel (Mozambique (actif) AOR : 1,12 ; IC à 95 % : 0,97–1,29) se sont révélés positivement associés à la participation des hommes à la prise de décision en matière de planification familiale au Malawi, en Afrique du Sud et au Mozambique. Les stratégies suggérées comprennent des programmes ciblant conjointement les couples et une éducation à la

planification familiale pour les hommes dispensée par des agents de proximité masculins, en particulier dans les communautés au niveau local. Par conséquent, pour encourager la participation et l'approbation des hommes à la planification familiale, des programmes d'intervention communautaires qui ciblent ouvertement les hommes sont nécessaires pour réduire la stigmatisation et les idées fausses et renforcer la prise de conscience des avantages de l'utilisation de la planification familiale. *(Afr J Reprod Health 2023; 27 [10]: 16-35).*

Mots-clés: Planification familiale, participation masculine, santé reproductive, Afrique australe

Introduction

Family planning (FP) is key in improving reproductive and maternal health by preventing unwanted pregnancies, reducing unsafe abortions and promoting child spacing. It helps to achieve the healthiest pregnancy timing and spacing, hence managing fertility[1-5]. As fertility lowers, infant and maternal mortality decline as well[4,5], and family planning provides significant protection for women by preventing unintended pregnancies, which often end in unsafe abortions. Thus, since the 1994 International Conference on Population and Development (ICPD), and the 1995 UN World Conference on Women, interests and campaigns on men's involvement in reproductive health have attracted a wide debate across international and national stakeholders[3,6-8]. Also, there seems to be a shift in male participation and concerns, from enhancing the use of FP and achieving demographic transitions, and the sustainable development goals (SDGs) of gender equality in accomplishing specific reproductive roles and responsibilities[9,10].

In the last two decades, almost 1.2 million maternal deaths were averted globally as a result of an increase in the use of contraceptives and FP services[4-10]. Studies have proved that African countries are still exemplified by a large proportion of unwanted pregnancies, unsafe abortions, high maternal mortality rates, low contraceptive use, and increased rates of unmet need for FP[2,11]. The uptake of family planning (FP) services and modern contraception methods depend on and are rooted in various factors. The male partners play a key role in reproductive health matters and are seeming to be majorly recognized to be responsible for the large proportion of poor reproductive health suffered by their female partners[10,12-14]. Male involvement helps not only in accepting any FP method but also in its effective use and continuation[15-17].

Yet, one of the most serious issues developing nations should solve is their rapid and uninhibited increase in population growth. Several studies reported men's general knowledge and attitudes regarding the ideal family size, gender preference of children, ideal spacing between child deliveries, and contraceptive method use, are significantly based on women's inclinations and beliefs[18-20]. However, fertility and FP studies have overlooked men's roles in the past, focusing on women's behaviour[21-22]. In Southern African countries, the strong drive to include males in FP programmes help in decreasing unmet FP needs, where MDGs were not achieved in 2015[9,21]; yet concerted efforts to achieve the SDGs became paramount.

Still, the use of modern contraceptive services in Southern African countries has been reported to be higher than other African regions such as West and East[20-22]. This gap in low adoption of contraceptive use can be associated with increased maternal mortality burden across these African regions[23,24]. Studies have mentioned several factors that have been inhibiting men's involvement in family planning decision-making, and some of these factors include demographic, personal relations, patriarchal views, socio-cultural, and traditional beliefs[18-23]. Studies have reported that most households are headed by men, who still remain holding extensive control over women[25,26]. Despite men's positions as household heads, with rich wealth and high employment status, research evidence have showed that men still have low participation in FP involvement with their partners[20,21]. This has been attributed to culture and masculinity, that man have dominance over women. Male domination is strengthened by political and economic means, limiting women's access to financial liberation and reproductive health autonomy[6,26]. Gender inequality, religious views, ineffective policies, and patriarchal practices are contributing to female disempowerment in several African settings, which act as barriers to male involvement in FP[6,27].

Culture guides behaviour and is a macro-operational aspect that influences reproductive behaviour and promotes male involvement in FP decision-making with their spouses. Women lack

the freedom to make their own judgments about FP methods because patriarchal beliefs on gendered roles are socially established and perpetuated in many cultural settings. Men have the influence to decide how many children they want to have as a result of patriarchal values. Besides, studies have established a number of micro-level factors influencing male's uptake and use of FP[28,29]. These identified micro-level factors include male partners having negative personal beliefs about FP methods, limited access to FP, myths and misconception, perceived side effects including decreased sexual pleasure, marital status, poor economic status, religious influences, limited choices of male FP methods, suspicion of female partner infidelity, and male preference for larger families as reasons to oppose FP use and its uptake among their spouses[21,29-31]. Negative interactions with healthcare personnel are also a significant factor that determines male participation in FP[21].

In addition, most studies on FP are conducted from the female perspective, focusing on women who are clinic attendees to capture the FP involvement[19,20]. This has long been mirrored in how the male voice has been silenced. Also, there is a postulation that men are always barriers to or uninterested in FP use, and that their influence might result in withdrawal of family planning use[24,25]. Studies have shown that good communication between couples might positively influence FP use, and can decrease the threat of misconceptions; good communication can result in joint decisions about FP use, which has been connected to enhanced devotion[8,26,32-34]. Male partner attitudes that are supportive of FP, and good opinions of FP services are critical factors in increasing FP uptake and utilization. It has also been reported that young men exposed to health education on FP services were four times more likely to support FP[20-22]. Therefore, the objective of this study is to explore the prevalence of young males' involvements and the factors associated with men's involvement in FP decisions in Southern African countries.

Methods

Data

This study used data from the most recent nationally representative Demographic and Health Surveys (DHSs) from seven Southern African countries, selected on the basis of data availability and geographical differences: Lesotho (LDHS−2014), Malawi (MDHS−2015/16), Mozambique (Mozambique DHS−2015), South Africa (SADHS−2016), Tanzania (TDHS−2015/16), Zambia (ZDHS−2013/2014 and ZDHS−2018) and Zimbabwe (ZimDHS−2015). The survey's goal was to produce national, provincial, and country-level demographic and health indicator estimates. After obtaining permission to use the data, data was obtained from the Measure DHS program. The data used was a man's recode file, which comprised information on all men interviewed in all of the countries that DHS sampled for this study[35-42]. All the selected DHS of all the sampled countries for this study applied probability sampling to provide nationally representative samples of men aged 15−34 years years[35-42]. Data pooling was done to increase statistical power and enhance generalizability to Southern Africa. This was also driven by the information that a number of organizations (e.g. WHO) usually present data of this type using a country-wide viewpoint, which has been useful for programme development at the country level. The DHS Program is a nationally representative, cross-sectional survey conducted in participating countries, typically every five years[35-42]. The DHS uses a stratified random sampling approach, with clusters providing the primary sampling unit. Within each selected cluster, the DHSs randomly samples households[35-42]. This analysis was based on data from sub-samples of men aged 15−34 interviewed in the seven countries: Lesotho, Malawi, Mozambique, South Africa, Tanzania, Zambia and Zimbabwe. To account for changes in probability selection as well as an adjustment for non-responses, the DHS datasets were weighted. The weighting was done as the individual weight for men (mv005), which is the household weight for the men's subsample (hv028) were multiplied by the inverse of the individual response rate for men in the stratum. Sampling weights are then applied, calculated and rounded off in six decimals and were presented in standard recode files without decimal point divided by 1,000,000 before use to approximate the number of cases. This was done to address any situations of non-response bias, over- or under-sampling, hence its recommendation to weight the data. The syntax in the weighting used

is to create weight variable, by generating weight (gen wt) = v005/1000000 and then, computing weight (wt) = v005/1000000, as weight is wt in the STATA command. This analysis, therefore, was restricted to 45,991 weighted men, and these included never married, married/ cohabiting, widowed and divorced/separated, aged 15−34 years. This age group of men, who were never married, married/cohabiting, widowed and divorced/ separated were selected as they are probably sexually active and more likely to be involved in FP or have experience of FP.

Variables

Dependent variable

In this study, the dependent variable is male involvement in FP. This variable was examined using a composite of five questions (such as first, *FP discussion with health workers or health professional last few months* (MV395); second, knowledge of any method classified into modern, traditional and folkloric methods (MV301); third, ever use of a modern, traditional, and folkloric method (MV302); fourth, whether the method is currently being used (MV307); and fifth, contraception is woman's business as a man should not worry and participated in FP decision-making with their partners (question number MV3B25A))[35-42] coded 'yes' = 1 (involvement in FP decisions), and 'no' = 0 (non- involvement in FP decisions), related to reproductive health and FP adoption from the sampled and selected DHSs35-42 in Lesotho, Malawi, Mozambique, South Africa, Tanzania, Zambia and Zimbabwe. Male involvement in FP refers to the involvement of males in at least one of the following activities such as: discussion or spousal communication, support, approval, and contraceptive use of the husband. These aforementioned activities form questions such as: i. Have you used any contraceptive methods (traditional and modern methods)? ii. Using condoms does not decrease men's sexual desire; iii. Discussion of partners on FP use or not; iv. Men should not care about contraception as it is a woman's responsibility v. Too many children are often detrimental to the mother's health vi. Men should share FP practices in the family vii. Discussed FP with health workers last few months. The aforementioned questions were used to construct scores for each question, were summed and dichotomized as involvement and non-involvement in FP decision-making. Respondents' affirmation to the above questions were coded as '1' and '0' otherwise.

Independent variables

The independent variables were socio-demographic characteristics that were chosen to influence male involvement in FP based on the study objectives and previous studies. These included: age, place of residence, education, wealth index, marital status, occupation, exposure to media, contraceptive knowledge, and sex of household head, which were hypothesized to influence male involvement in FP. Thus, age was categorized as 15−24 and 25−34 years. Place of residence was categorized as 'urban' and 'rural'. Educational level was coded as 'no education', 'primary education', and 'secondary/higher.' Wealth index was classified as 'poor', 'middle' and 'rich'. Thus, wealthy index is generated using principal component analysis, and place individuals on a continuous scale- based on the scores of the first principal component. The scale is then ranked, after which it is subdivided into five equal stratums called wealth quintiles (poorest, poor, middle, wealthier and wealthiest)[35-42]. However, in this study, we regroup the five stratums of wealth quintiles into three categories: poor, middle and rich in order to have a meaningful interpretations of the outcome of interest. From the descriptive analysis, the first quintile represents the lowest 1/5 of values from 0-20% of the range. The second quintile includes the values from 20-40%, the third quintile includes 40-60%, the fourth quintile includes 60-80%, and the fifth quintile includes the highest 1/5 of values from 80-100%. In this study, the first and second quintile were categorized as 'poor', the middle quintile was left as 'middle' and the fourth and fifth quintile were categorized as 'rich'. Also, marital status was coded as 'never married', 'married/cohabiting', 'widowed' and 'divorced/separated'. Occupation was measured as a dichotomous variable coded as 'not working' and 'working'. Media exposure was measured from respondents reporting hearing FP messages on the radio or TV or reading about them in magazines in the last few months. A dichotomous variable was created and coded '1' if respondent responded 'yes' to at least two or more of the forms of media and '0' if otherwise.

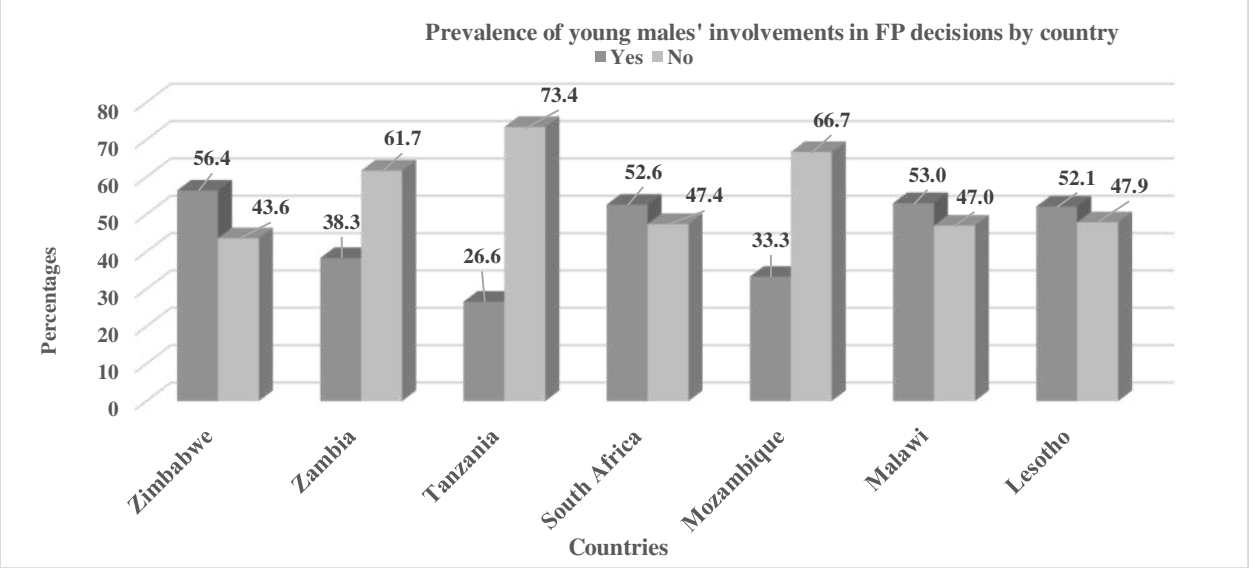

Figure 1: Prevalence of young males' involvements in FP decisions across Southern African countries

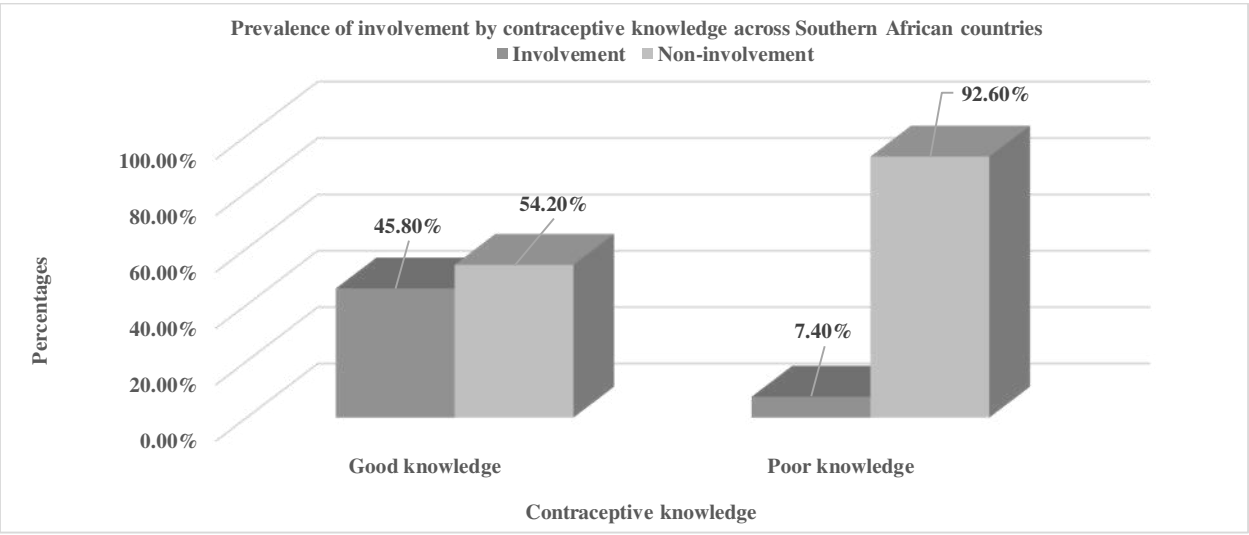

Figure 2: Prevalence of involvement in FP decisions by contraceptive knowledge across Southern African countries

To measure the respondents' knowledge of contraceptives or FP, they were asked the following questions: i. Do you know FP? ii. Do you know male FP? iii. Can you list any four benefits of FP? iv. Can you list any four FP methods you know? Knowledge scores were summed up to give a total knowledge score for each respondent. Therefore, the total score of contraceptive knowledge questions ranging from zero to ten was classified into two categories of response: good and poor knowledge. According to previous studies that have measured knowledge in their studies[2,3], knowledge is quantified in order to have classification into two categories of response: good and poor knowledge in this study. In this study, the 4 items or questions were assigned scores of 2.5 using a 4-point Likert scale ranging from 1 to 10 (poor knowledge = 1–3 and good knowledge = 4–10)[30-34]. Any respondents who score below 3 had poor knowledge and if the respondent scores above 3 have good knowledge. Higher scores represented good knowledge or better knowledge. In this study, male knowledge on FP was classified as good knowledge if men responded correctly above or equal to the mean value from knowledge-accessing questions. Men who scored below mean value of

2.5 were considered as having poor knowledge of FP. In addition, sex of household head was categorized as 'male headed' and 'female headed'.

Data analysis

A statistical package Stata (version 14.2) was used to conduct data analysis and the missing variables and non-responses were dropped during the analysis. First, descriptive statistics were used to provide sample characteristics of respondents' age, place of residence, education level, wealth index, marital status, occupation, exposure to media, contraceptive knowledge, and sex of household head. Bar graphs were used in showing the prevalence of male involvement and non-involvement by contraceptive knowledge. Second, to assess the statistical relationship between the dependent and independent variables, bivariate analysis was performed using the Chi-square (χ^2) test statistic. Third, independent variables significantly associated with the dependent variable were included in the binary logistic regression model to predict the factors associated with male involvement of FP decisions at $\rho \leq 0.05$ level of significance. The outcome variable (involvement in FP decisions) was dichotomous, 'yes' or 'no', and coded as '1' = involvement of FP decisions ('yes') and '0' = non-involvement in FP decisions ('no'). Reference category was used to compare the factors to another in a covariate against the dependent variables, and the category dropped becomes the 'reference category' (RC) for interpreting the coefficients. This showed that the intercept becomes an estimated effect for the dropped category, and the coefficients on the other categories become deviations from this effect, so that the design matrix X will have full rank, hence its justification in this study. All analyses were weighted to account for differences in sampling probabilities.

Results

Descriptive statistics

Table 1 shows the socio-demographic factors of respondents' involvement in FP decisions by contraceptive knowledge (good or poor knowledge). A majority of the respondents have good knowledge across all ages, with most of them falling in the age cohort of 25−34 (50.9%), and 68.7% of respondents aged 15−24 reported to have poor knowledge of contraceptive. Respondents with good knowledge (56.8%) were majorly found in the urban place of residence while those with poor knowledge (53.6%) were mostly found in the rural place of residence. Respondents with secondary/higher education (54.6%) and were in the rich wealth index (50.9%) had good knowledge

Table 1: Distribution of socio-demographic factors of respondents' involvement in FP decisions by contraceptive knowledge

Socio-demographic factors	Involvement in FP decisions by contraceptive knowledge, n (%)	
	Good contraceptive knowledge, n = 4310	Poor contraceptive knowledge, n = 5457
Age (in years)		
15−24	2,115 (49.1)	3,750 (68.7)
25−34	2,195 (50.9)	1,707 (31.3)
Place of residence		
Urban	2,446 (56.8)	2,532 (46.4)
Rural	1864 (43.2)	2,925 (53.6)
Educational level		
No education	577 (13.4)	668 (12.2)
Primary	1,378 (32.0)	2,494 (45.7)
Secondary/higher	2,355 (54.6)	2,295 (42.1)
Wealth index		
Poor	1,082 (25.1)	1,795 (32.9)
Middle	1,036 (24.0)	1,290 (23.6)
Rich	2,192 (50.9)	2,372 (43.5)
Marital status		
Never married	1,973 (45.8)	1,641 (30.1)
Married/cohabiting	2,009 (46.6)	2,663 (48.8)
Widowed	53 (1.2)	487 (8.9)
Divorced/Separated	275 (6.4)	666 (12.2)
Occupation		
Not working	610 (14.2)	1,483 (27.2)
Working	3,700 (85.8)	3,974 (72.8)
Exposure to media		
Low	1,617 (37.5)	2,225 (40.8)
High	2,693 (62.5)	3,232 (59.2)
Sex of household		
Male-headed	2,879 (66.8)	3,928 (72.0)
Female-headed	1,431 (33.2)	1,529 (28.0)
Countries		
Lesotho	365 (8.5)	674 (12.4)
Malawi	796 (18.5)	785 (14.4)
Mozambique	588 (13.6)	798 (14.6)
South Africa	736 (17.1)	983 (18.0)
Tanzania	769 (17.8)	848 (15.5)
Zambia	488 (11.3)	498 (9.1)
Zimbabwe	568 (13.2)	871 (16.0)

Table 2: Pooled prevalence of young males' involvements in FP decisions by country

Country name	Effective Size (ES) with 95% CI	% Relative weight
Mozambique	13.05% [13.71, 14.88]	13.35
Zambia	25.14% [23.22, 26.14]	13.27
Tanzania	28.25% [18.67, 30.24]	10.02
Lesotho	30.12% [20.10, 32.12]	15.04
Malawi	31.00% [28.06, 34.39]	18.26
South Africa	35.00% [33.12, 36.19]	18.40
Zimbabwe	39.47% [34.60, 40.51]	11.66
Overall prevalence (I-squared = 100.0%, ρ = 0.000	**44.14% [43.22, 48.63]**	**100.00**

*ρ < 0.05

of contraceptives. Respondents who were married or cohabiting (48.8%) and have male-headed household (72.0%) reported having poor knowledge of contraceptives. Those working (85.8%) and have high media exposure (62.5%) were found to have good knowledge of contraceptives, respectively.

Prevalence of young males' involvements in FP decisions by countries

Findings of the prevalence of respondents' involvement in FP decisions across the sampled countries in the Southern African region are shown in Figure 1. The findings revealed that the highest prevalence of male involvement in FP decisions was found in Zimbabwe (56.4%) and lowest prevalence of male involvement in FP decisions was in Tanzania (26.6%).

The Pooled Prevalence of young males' involvement in FP decisions

Table 2 presents the pooled prevalence of young males' involvements in FP decisions in Southern African countries. The pooled prevalence of involvement in FP decisions among young males in Southern African countries was 44.14% [95% CI: 43.22, 48.63], with the highest pooled prevalence in Zimbabwe (39.47%) and the lowest pooled prevalence in Mozambique (13.05%). The Effect Size (ES) indicated that involvement in FP decisions among young males aged 15−24 years old varies significantly across countries in Southern Africa.

Distribution of male involvement in FP decisions by contraceptive knowledge

Figure 2 shows the prevalence of respondents' involvement in family planning decisions by contraceptive knowledge. Overall, 92.6% of male respondents who have contraceptive knowledge were not involved in family planning decision-making. Only 54.2% of the male respondents were involved in family planning decision making in Southern Africa.

Bivariate analysis of the male involvement in FP decisions in Southern African countries

Table 4 shows that most of the socio-demographic factors have associations with male involvement in FP decisions in Southern African countries. This study's findings identified most of the independent factors such as age 15‑34 years, education, wealth status, religion, marital status, population group, occupational status, media access to information, contraceptive knowledge, and sex of household head were significantly associated with male involvement in FP decisions in Lesotho, Malawi, Mozambique, South Africa, Tanzania, Zambia and Zimbabwe (ρ< 0.05). However, factors such as religion and population group were not significantly associated in Zambia (ρ> 0.05), occupational status was not significantly associated in Mozambique (ρ> 0.05), and sex of household head was not significantly associated in both South Africa (ρ> 0.05) and Tanzania (ρ> 0.05) with male involvement in FP decisions.

Multivariate analysis of young males' involvements in FP decisions in Southern Africa

The adjusted logistic regression analysis of the sociodemographic factors predicting male involvement in FP decisions in Southern African countries are shown in Table 4. Males with middle and rich wealth index in Lesotho, Malawi, Mozambique, South Africa, Tanzania, Zambia and

Table 3: Bivariate analysis of young males' involvements in FP decision-making in Southern African countries

Socio-demographic characteristics	Lesotho No, n = 369	Lesotho Yes, n = 670	Malawi No, n = 569	Malawi Yes, n = 1012	Mozambique No, n = 745	Mozambique Yes, n = 641	South Africa No, n = 829	South Africa Yes, n = 890	Tanzania No, n = 1059	Tanzania Yes, n = 558	Zambia No, n = 638	Zambia Yes, n = 348	Zimbabwe No, n = 835	Zimbabwe Yes, n = 604
Age (in years)	**ρ = 0.000; χ^2= 81.5768**		**ρ = 0.000; χ^2= 19.1174**		**ρ = 0.000; χ^2= 11.2193**		**ρ = 0.000; χ^2= 14.2470**		**ρ = 0.000; χ^2= 95.7591**		**ρ = 0.000; χ^2= 27.2178**		**ρ = 0.000; χ^2= 35.2314**	
15−24	277 (75.1)	94 (14.0)	259 (45.5)	486 (48.0)	443 (59.5)	355 (55.4)	384 (46.3)	386 (43.4)	479 (45.2)	274 (49.1)	268 (42.0)	128 (36.8)	615 (73.7)	348 (57.6)
25−34	92 (24.9)	576 (86.0)	310 (54.5)	526 (52.0)	302 (40.5)	286 (44.6)	445 (53.7)	504 (56.6)	580 (54.8)	284 (50.9)	370 (58.0)	220 (63.2)	220 (26.3)	256 (42.4)
Place of residence	**ρ = 0.000; χ^2= 49.1615**		**ρ = 0.035; χ^2= 4.4266**		**ρ = 0.000; χ^2= 381.8036**		**ρ = 0.642; χ^2= 0.2161**		**ρ = 0.000; χ^2= 26.1499**		**ρ = 0.000; χ^2= 50.0061**		**ρ = 0.000; χ^2= 89.8452**	
Urban	172 (46.6)	250 (37.3)	270 (47.5)	554 (54.7)	483 (64.8)	430 (67.1)	550 (66.3)	657 (73.8)	444 (41.9)	343 (61.5)	206 (32.3)	168 (48.3)	380 (45.5)	130 (21.5)
Rural	197 (53.4)	420 (62.7)	299 (52.5)	458 (45.3)	262 (35.2)	211 (32.9)	279 (33.7)	233 (26.2)	615 (58.1)	215 (38.5)	432 (67.7)	180 (51.7)	455 (54.5)	474 (78.5)
Educational attainment	**ρ = 0.000; χ^2= 48.3562**		**ρ = 0.000; χ^2= 62.4618**		**ρ = 0.000; χ^2= 402.8412**		**ρ = 0.000; χ^2= 139.1789**		**ρ = 0.000; χ^2= 21.1030**		**ρ = 0.000; χ^2= 90.6659**		**ρ = 0.000; χ^2= 25.3024**	
No education	25 (6.8)	188 (28.1)	212 (37.3)	187 (18.5)	81 (10.9)	68 (10.6)	115 (13.9)	36 (4.0)	130 (12.3)	66 (11.8)	161 (25.2)	201 (57.8)	31 (3.7)	66 (10.9)
Primary	204 (55.3)	120 (17.9)	138 (24.3)	214 (21.2)	263 (35.3)	233 (36.4)	394 (47.5)	198 (22.3)	339 (32.0)	156 (28.0)	197 (30.9)	101 (29.0)	372 (44.6)	218 (36.1)
Secondary/higher	140 (37.9)	362 (54.0)	219 (38.4)	611 (60.3)	401 (53.8)	340 (53.0)	320 (38.6)	656 (73.7)	590 (55.7)	336 (60.2)	280 (43.9)	46 (13.2)	432 (51.7)	320 (53.0)
Wealth status	**ρ = 0.000; χ^2= 76.7645**		**ρ = 0.004; χ^2= 11.2283**		**ρ = 0.000; χ^2= 507.6460**		**ρ = 0.129; χ^2= 4.0890**		**ρ = 0.000; χ^2= 34.0326**		**ρ = 0.000; χ^2= 120.4380**		**ρ = 0.000; χ^2= 76.1221**	
Poor	91 (24.7)	208 (31.0)	165 (29.0)	200 (19.8)	139 (18.7)	334 (52.1)	355 (42.8)	406 (45.6)	236 (22.3)	251 (45.0)	295 (46.2)	114 (32.8)	114 (13.5)	140 (23.1)
Middle	134 (36.3)	164 (24.5)	150 (26.4)	596 (58.9)	272 (36.5)	141 (22.0)	176 (21.2)	268 (30.1)	683 (64.5)	223 (40.0)	81 (12.7)	118 (33.9)	368 (44.2)	158 (26.2)
Rich	144 (39.0)	298 (44.5)	254 (44.6)	216 (21.3)	334 (44.8)	166 (25.9)	298 (36.0)	216 (24.3)	140 (13.2)	84 (15.0)	262 (41.1)	116 (33.3)	353 (42.2)	306 (50.7)
Religion	**ρ = 0.000; χ^2= 36.7645**		**ρ = 0.002; χ^2= 12.1411**		**ρ = 0.000; χ^2= 43.4225**		—		—		**ρ = 0.930; χ^2= 0.1452**		**ρ = 0.000; χ^2= 21.4205**	
Christian	168 (45.5)	480 (71.6)	190 (33.4)	573 (56.6)	272 (36.5)	141 (56.9)	—	—	—	—	477 (74.8)	244 (70.1)	536 (64.2)	316 (52.3)

Socio-demographic characteristics	**Lesotho**		**Malawi**		**Mozambique**		**South Africa**		**Tanzania**		**Zambia**		**Zimbabwe**	
	No, n = 369	**Yes, n = 670**	**No, n = 569**	**Yes, n = 1012**	**No, n = 745**	**Yes, n = 641**	**No, n = 829**	**Yes, n = 890**	**No, n = 1059**	**Yes, n = 558**	**No, n = 638**	**Yes, n = 348**	**No, n = 835**	**Yes, n = 604**
Muslim	03 (0.8)	07 (1.1)	273 (48.0)	353 (34.9)	349 (46.9)	101 (15.8)	—	—	—	—	67 (10.5)	42 (12.1)	294 (35.2)	283 (46.9)
Traditional	198 (53.7)	183 (27.3)	106 (18.6)	86 (8.5)	124 (16.6)	175 (27.3)	—	—	—	—	94 (14.7)	62 (17.8)	05 (0.6)	05 (0.8)
Marital status	**ρ = 0.034; χ^2= 6.7352**		**ρ = 0.000; χ^2= 31.6213**		**ρ = 0.000; χ^2= 23.9656**		**ρ = 0.000; χ^2= 16.3346**		**ρ = 0.000; χ^2= 55.4393**		**ρ = 0.000; χ^2= 25.2791**		**ρ = 0.000; χ^2= 48.2683**	
Never married	95 (25.7)	126 (18.8)	229 (40.2)	350 (34.6)	141 (18.9)	219 (34.2)	214 (25.8)	310 (34.8)	222 (21.0)	122 (21.9)	166 (26.0)	102 (29.3)	291 (34.9)	120 (19.9)
Married/cohabiting	62 (16.8)	321 (47.9)	167 (29.4)	469 (46.3)	414 (55.6)	273 (42.6)	483 (58.3)	394 (44.3)	502 (47.4)	302 (54.1)	188 (29.5)	122 (35.1)	361 (43.2)	389 (64.4)
Widowed	104 (28.2)	92 (13.7)	58 (10.2)	30 (3.0)	88 (11.8)	22 (3.4)	26 (3.1)	64 (7.2)	180 (17.0)	80 (14.3)	108 (16.9)	22 (6.3)	15 (1.8)	51 (8.4)
Divorced/Separated	108 (29.3)	131 (19.6)	115 (20.2)	163 (16.1)	102 (13.7)	127 (19.8)	106 (12.8)	122 (13.7)	155 (14.6)	54 (9.7)	176 (27.6)	102 (29.3)	168 (20.1)	44 (7.3)
Occupational status	**ρ = 0.000; χ^2= 73.1501**		**ρ = 0.000; χ^2= 178.0138**		**ρ = 0.125; χ^2= 2.3529**		**ρ = 0.000; χ^2= 21.2305**		**ρ = 0.000; χ^2= 28.8129**		**ρ = 0.000; χ^2= 13.4988**		**ρ = 0.000; χ^2= 17.4305**	
Not working	139 (37.7)	468 (69.9)	300 (52.7)	374 (37.0)	276 (37.0)	292 (45.6)	468 (56.5)	389 (43.7)	484 (45.7)	50 (9.0)	200 (31.3)	80 (23.0)	223 (26.7)	194 (32.1)
Working	230 (62.3)	202 (30.1)	269 (47.3)	638 (63.0)	469 (63.0)	349 (54.4)	361 (43.5)	501 (56.3)	575 (54.3)	508 (91.0)	438 (68.7)	268 (77.0)	612 (73.3)	410 (67.9)
Population group	—		—		—		**ρ = 0.000; χ^2= 29.6362**		—		**ρ = 0.450; χ^2= 0.5712**		—	
Non-African	—	—	—	—	—	—	—	—	—	—	611 (95.8)	335 (96.3)	—	—
African	—	—	—	—	—	—	468 (56.5)	698 (78.4)	—	—	27 (4.2)	13 (3.7)	—	—
White	—	—	—	—	—	—	98 (11.8)	44 (4.9)	—	—	—	—	—	—
Coloured	—	—	—	—	—	—	205 (24.7)	128 (14.4)	—	—	—	—	—	—
Indian/Asian	—	—	—	—	—	—	58 (7.0)	20 (2.3)	—	—	—	—	—	—
Access to media information	**ρ = 0.000; χ^2= 21.0662**		**ρ = 0.000; χ^2= 29.4754**		**ρ = 0.000; χ^2= 23.5224**		**ρ = 0.001; χ^2= 11.7884**		**ρ = 0.000; χ^2= 16.5174**		**ρ = 0.000; χ^2= 28.1835**		**p= 0.000; χ^2= 47.0227**	
No	106 (28.7)	387 (57.8)	363 (63.8)	140 (13.8)	202 (27.1)	162 (25.3)	407 (49.1)	291 (32.7)	290 (27.4)	86 (15.4)	204 (32.0)	118 (33.9)	211 (25.3)	102 (16.9)
Yes	263 (71.3)	283 (42.2)	206 (36.2)	872 (86.2)	543 (72.9)	479 (74.7)	422 (50.9)	599 (67.3)	769 (72.6)	472 (84.6)	434 (68.0)	230 (66.1)	624 (74.7)	502 (83.1)

Socio-demographic characteristics	**Lesotho**		**Malawi**		**Mozambique**		**South Africa**		**Tanzania**		**Zambia**		**Zimbabwe**	
	No, n = 369	**Yes, n = 670**	**No, n = 569**	**Yes, n = 1012**	**No, n = 745**	**Yes, n = 641**	**No, n = 829**	**Yes, n = 890**	**No, n = 1059**	**Yes, n = 558**	**No, n = 638**	**Yes, n = 348**	**No, n = 835**	**Yes, n = 604**
Contraceptive knowledge	**ρ = 0.000; χ^2= 29.2083**		**ρ = 0.000; χ^2= 45.3407**		—		**ρ = 0.000; χ^2= 16.7332**		**ρ = 0.000; χ^2= 28.2035**		**ρ = 0.000; χ^2= 48.6325**		**ρ = 0.000; χ^2= 46.1732**	
No	49 (13.3)	82 (12.2)	40 (7.0)	00 (0.0)	—	—	131 (15.8)	90 (10.1)	50 (4.7)	00 (0.0)	78 (12.2)	00 (0.0)	40 (4.8)	01 (0.2)
Yes	320 (86.7)	588 (87.8)	529 (93.0)	1012 (100.0)	—	—	698 (84.2)	800 (89.9)	1009 (95.3)	558 (100.0)	560 (87.8)	348 (100.0)	795 (95.2)	603 (99.8)
Sex of household head	**ρ = 0.001; χ^2= 11.5214**		**ρ = 0.000; χ^2= 13.1497**		**ρ = 0.000; χ^2= 17.3248**		**ρ = 0.155; χ^2= 2.0226**		**ρ = 0.057; χ^2= 3.6154**		**ρ = 0.000; χ^2=54.3888**		**ρ = 0.000; χ^2= 142.6848**	
Male	40 (10.8)	284 (42.4)	389 (68.4)	540 (53.4)	295 (39.6)	155 (24.2)	290 (35.0)	258 (29.0)	705 (66.6)	446 (79.9)	537 (84.2)	283 (81.3)	653 (78.2)	180 (29.8)
Female	329 (89.2)	386 (57.6)	180 (31.6)	472 (46.6)	450 (60.4)	486 75.8)	539 (65.0)	632 (71.0)	354 (33.4)	112 (20.1)	101 (15.8)	65 (18.7)	182 (21.8)	424 (70.2)

Reference category; *ρ<0.05

Table 4: Adjusted multivariate analysis of young males' involvements in FP decision-making

Socio-demographic	Young males' involvements in family planning decision-making in Southern Africa countries Lesotho	Malawi	Mozambique	South Africa	Tanzania	Zambia	Zimbabwe
Age (in years)							
15−24	RC	RC	RC	RC	RC	RC	RC
25−34	1.84 (1.53 - 2.22)	1.84 (1.64 - 2.06)	0.84 (0.73 - 0.97)	1.49 (1.25 - 1.77)	2.18 (1.81 - 2.64)	2.84 (2.60 - 3.10)	4.14 (3.69 - 4.63)
Place of residence							
Urban	RC	RC	RC	RC	RC	RC	RC
Rural	0.57 (0.48 - 0.66)	0.89 (0.80-0.99)	0.30 (0.27 - 0.34)	0.97 (0.85 - 1.11)*	0.66 (0.57 - 0.78)	0.79 (0.74 - 0.84)	0.65 (0.60 - 0.71)
Educational attainment							
No education	RC	RC	RC	RC	RC	RC	RC
Primary	1.76 (1.37 - 2.26)	1.12 (0.91 - 1.38)*	1.43 (1.11 - 1.84)	1.44 (0.95 - 2.19)*	1.94 (1.39 - 2.72)	0.96 (0.80 - 1.15)*	1.27 (0.75 - 2.16)
Secondary/higher	2.68 (2.08 - 3.45)	1.62 (1.31 - 1.99)	4.46 (3.46 - 5.74)	3.65 (2.47 - 5.39)	2.23 (1.57 - 3.16)	1.34 (1.12 - 1.60)	1.64 (0.97 - 2.76)*
Wealth status							
Poor	RC	RC	RC	RC	RC	RC	RC
Middle	1.64 (1.34 - 1.99)	1.04 (0.91 - 1.19)*	1.52 (1.22 - 1.90)	1.19 (1.01 - 1.41)	1.46 (1.17 - 1.81)	1.39 (1.27 - 1.53)	0.94 (0.83 - 1.07)*
Rich	2.07 (1.76 - 2.45)	1.18 (1.07 - 1.31)	5.01 (4.25 - 5.89)	1.06 (0.91 - 1.23)*	1.68 (1.41 - 2.01)	1.52 (1.41 - 1.64)	1.43 (1.30 1.58)
Religion							
Christian	RC	RC	RC	RC	RC	RC	RC
Muslim	2.10 (0.54 - 8.12)*	0.82 (0.70 - 0.95)	0.57 (0.49 - 0.68)			1.01 (0.69 - 1.49)*	1.31 (1.17 - 1.47)
Traditional	0.73 (0.56 - 0.95)	0.70 (0.52 - 0.93)	0.98 (0.84 - 1.15)*			1.06 (0.77 - 1.47)*	0.81 (0.23 - 1.80)*
Marital status							
Never married	RC	RC	RC	RC	RC	RC	RC
Married/cohabiting	1.38 (1.18 - 1.60)	1.60 (1.45 - 1.75)	0.40 (0.36 - 0.46)	0.56 (0.48 - 0.64)	1.62 (1.38 - 1.90)	2.34 (2.18 - 2.52)	3.75 (3.41 - 4.12)
Widowed	0.68 (0.45 - 1.03)*	1.06 (0.55 - 2.05)*	0.78 (0.45 - 1.34)*	0.51 (0.28 - 0.94)	3.33 (1.27 - 8.70)	0.93 (0.57 - 1.51)*	5.48 (3.07 - 9.78)
Divorced/Separated	1.18 (0.84 - 1.66)*	2.34 (1.76 - 3.12)	1.03 (0.80 - 1.33)*	1.32 (0.93 - 1.89)	2.60 (1.83 - 3.68)	1.71 (1.43 - 2.06)	3.87 (3.07 - 4.88)
Occupational status							
Not working	RC	RC	RC	RC	RC	RC	RC
Working	1.97 (1.68 - 2.30)	2.45 (2.14 - 2.80)	1.12 (0.97 - 1.29)*	1.36 (1.19 -1.55)	2.86 (2.10 - 3.88)	2.84 (2.58 - 3.14)	3.65 (3.29 - 4.05)
Population group							
African Black	RC	RC	RC	RC	RC	RC	RC

White				0.52 (0.35 - 0.76)			
Coloured				0.61 (0.48 - 0.78)			
Indian/Asian				0.57 (0.32 - 1.03)*			
Access to media information							
No	RC	RC	RC	RC	RC	RC	RC
Yes	1.88 (1.61 - 2.21)	1.35 (1.21 - 1.51)	1.85 (1.63 - 2.10)	1.35 (1.14 - 1.60)	3.01 (2.23 - 4.06)	1.62 (1.49 - 1.77)	1.39 (1.27 - 1.53)
Contraceptive knowledge							
No	RC	RC	RC	RC	RC	RC	RC
Yes	5.49 (2.77 - 10.87)						49.64 (6.81 - 361.64)
Sex of household head							
Male	RC	RC	RC	RC	RC	RC	RC
Female	0.74 (0.63 - 0.88)	0.79 (0.70 - 0.90)	1.35 (1.17 - 1.55)	1.11 (0.96 - 1.27)*	0.80 (0.64 - 1.01)	0.68 (0.61 - 0.75)	0.55 (0.49 - 0.60)

*$\rho<0.05$; RC = Reference category

Zimbabwe have higher odds of being involved in FP decisions than poor males. Muslims from Lesotho (AOR 2.10; 95% CI: 0.54–8.12, ρ<0.05) and Zambia (AOR 1.01; 95% CI: 0.69–1.49, ρ<0.05) were found to be more likely to be involved in FP decisions, while traditional religious males in Zambia (AOR 1.06; 95% CI: 0.77–1.47, ρ<0.05) were more likely to be involved in FP decision-making compared to Christian religious males. Also, widowed males in Malawi (AOR 1.06; 95% CI: 0.55–2.05, ρ<0.05) was more likely to predict higher odds of male involvement in FP decision-making as compared to unmarried males, while divorced/separated males in Lesotho (AOR 1.18; 95% CI: 0.84–1.66, ρ<0.05) and Mozambique (AOR 1.03; 95% CI: 0.80–1.33, ρ<0.05) were more likely to be involved in FP decisions compared to never married males. Working males in Mozambique (AOR 1.12; 95% CI: 0.97–1.29, ρ<0.05) more likely to be involved in FP decisions than non-working males.

Discussion

The overall aim of this study was to investigate determinants of young males' involvements in FP decision-making in seven Southern African countries from 2014 to 2018, using recent Demographic and Health Surveys dataset. The pooled prevalence of young males' involvements in FP decisions in Southern African countries was 44.14% [95% CI: 43.22, 48.63], with the highest involvement in FP decisions among young males is in Zimbabwe (39.4%) and the lowest involvement in FP decisions among young males is in Mozambique (13.05%). This study's findings were lower than studies conducted in Nigeria (89%)[43], India (71.2%), and Kenya (52%)[48], but higher than studies conducted in Uganda (40%)[49], Ethiopia (39.7%)[50], and Ghana (34.4%[26] and 38.9%[51]). This prevalence differences across different countries could be as a result of disparities in health infrastructure, poor publicity of male involvement in FP, and socio-economic status[17]. Other few studies have also mentioned factors such as dearth of joint responsibility and low educational status are responsible for prevalence differences of male involvement in FP decision-making[17,31]. Another study have similarly mentioned that negative attitude toward male involvement in FP decisions and misunderstanding that FP is solely a woman's responsibility has been cited reasons why inadequate general attention is coming from policy-makers and programme planners[12,29]. Young males' low involvements in FP decisions was also due to the dearth of contraceptive choices available to them.

To increase young males' involvements in FP decision-making, more participation of healthcare providers to influence government stakeholders' concerns, and media coverage to raise consciousness and sensitization are needed; nonetheless, individual motivation may be necessary as well[10,52]. In addition, other systematic review and meta-analysis studies have reported regional differences in male involvement in FP decision-making. For instance, the Oromia region had a pooled prevalence of young males' involvements in FP decisions (44.7%), while the Southern Nation, Nationalities, and Peoples' Region (SNNPR) had the lowest prevalence (32.56%)[50]. Thus, this inconsistency could be owing to a time difference, a dissimilarity in a study setting, or socio-cultural differences in the grassroots' communities[53]. In Southern Africa, reproductive health decision-making should be a mutual concern for both young men and women. Growing evidence submits that young men's involvements in FP decisions might increase women's uptake of family planning services[24,54]. Yet, in many African settings, few young men want to be involved in matters relating to family planning decisions, and there is a dearth of evidence on barriers to young men's constructive engagement[55]. Several studies have reported that young men are perceived to be obstacles to women's utilization of FP and largely uninvolved, despite the fact that young men are often liable for decisions which affect the household[24,54,56]. This may be ascribed to men's unwillingness to support the uptake of contraceptive methods by their marital partners or themselves, established by fears of harmful side effects and spousal unfaithfulness, as well as preferences for large family sizes[50].

Similarly, established and social norms which describe reproductive health as a 'woman's issue' and the limited choice of accessible male contraceptives were also mentioned as barriers for male involvement in FP decisions[54]. Moreover, there is a shared impression that such barriers hindered young men's positive and constructive involvement such as discussing fertility

preferences, accompanying partners to seek reproductive health services, or providing other forms of support when needed. That is why spousal communication is important and should be encouraged, as it can improve young male involvement in FP decisions. Another important barrier in relation to male non-involvement in FP decisions was fear and negative health opinions stemmed from poor knowledge of contraception[24]. However, young men were not conscious of the direct and indirect costs of FP services, and may not want to incur such expenses with their long-term savings and investment, thereby influencing their non-involvement in FP decisions[48]. Also, the reason for countries having slow prevalence of male involvement in FP decisions may be due to inadequate implementation of pro-poor policies, poor human resources, weak health infrastructure, limited access to quality health services, and shortage of skilled FP health providers[50].

In the multivariable logistic regression analysis, age, place of residence, education, wealth status, religion, occupational status, exposure to media, contraceptive knowledge, and sex of household head were determinants of young males' involvements in FP decisions in the Southern Africa countries. This study evidenced that, as the age of the male group increases, the likelihood of involvement in FP decisions decreases the odds of participation in FP decisions. This finding was supported by study findings from Ethiopia[30] and contradicts studies from Ghana[26,51]. This could be explained by the fact that, as the age of men increases, they have less interest in having more children. Young males who had achieved primary and secondary/higher education were more likely to be involved in FP decisions than young males who had no education. This finding is supported by different studies conducted in Nigeria[56], Uganda[54], Malawi[24], Ethiopia[30], and South Africa[10] where the likelihood of young males exposed to FP and educational programmes were more likely to support FP and contraceptive use, as well as being involved in FP decision-making. Studies on FP decisions conducted in Kenya, Nigeria, and Senegal[33] also confirmed the above aforementioned finding that education was an important determinant of male increased involvement in FP decision-making. Attaining education among young males can influence them to participate in FP decisions with their spouses in different ways. Educated young men would know the benefit of being involved in FP decisions, which will create an avenue for spousal communication and gathering information on FP services through reading newspapers, mass media, and from different social media. Overall, educated young men had good chances of being involved in FP and reproductive health services when they have access to media information[22].

Wealth index had a significant association on the likelihood of young males' involvements in FP decision-making in the Southern Africa countries. This study evidences that likelihood of male participation in FP decisions was higher among men of middle and rich wealth status as compared to poor men. This finding was supported by studies conducted in Bangladesh[46], Togo[29], Nigeria[13] and Ethiopia[22], where male involvement in FP decision-making increased with better wealth-index. The possible justification might be due to men with medium and rich household wealth index being more likely to be able to pay for any costs such as transportations, and can also easily obtain information about the benefits of being involved in FP decisions[31]. This study revealed that young men in Muslim and traditional religions have a significant association with their involvements in FP decision-making. The findings revealed that Muslim respondents have higher odds of involvement in FP decision-makings in Lesotho and Zimbabwe, while in Zambia, Muslim and traditional religious young males have increased odds of involvement in FP decision-making, as compared to their Christian religious counterparts. This finding is not consistent with other studies reported in Ghana[57], South Africa[23], Tanzania[58], Nigeria[13] and Kenya[59]. This might be due to the centrality of the relationships between religion and fertility remaining poorly understood[60].

Muslim and African traditional followers are generally associated with higher fertility rates from a polygamous union, with lower acceptance of FP, and non-involvement in FP decisions with their spouses. In traditional and patriarchal societies, understanding young men's perceptions and attitudes to family planning is critical given their decision-making regarding fertility preferences in countries such as Nigeria and Kenya[10,59]. Thus, religion and young male gender dynamics may strongly influence the low uptake of FP and low involvement, with a wide range of

factors such as poor socio-economic indicators, religious sect, and adherence to various cultural and traditional practices which have been noted to undermine family planning programmes among Muslims and traditional religious followers[12,33]. However, this study's findings also showed that countries such as Malawi and Mozambique indicated no association between religion and young males' involvements in FP decisions. This finding was supported by studies conducted in Nigeria[10] and Ghana[26]. The possible explanation might be owing to young males' negative personal beliefs about FP, inadequate knowledge of FP programmes, limited access to FP/contraceptive information, and socio-cultural and religious myths and misconceptions surrounding FP, which seeks to control population.

Furthermore, this study revealed that young men's knowledge of contraceptives is a significant predictor of male involvement in FP decisions. Young males with good contraceptive knowledge have increased odds of involvement in FP decisions than their counterparts with poor contraceptive knowledge. This finding was supported by studies conducted in Tanzania[58] and Ethiopia[22]. This might be because knowledge of available contraceptive methods will enable individuals to make informed decisions and use contraception to plan, delay, and space the pregnancies of their spouses[52], which is linked to improved birth outcomes for the mother and the newborns, either directly or indirectly. There is a strong relationship between sex of household head and young male-involvement in FP decisions. This study evidenced that female-headed households increases the likelihood of young male involvement in FP decisions more than their male-headed households in Mozambique and South Africa. This finding was supported by a study conducted in South Africa[24] and in sub-Saharan Africa (SSA)[61]. This might be due to the reason that female-headed households are strongly empowered to assume the male gender roles. As a result of that, males are compelled to participate in FP uptake and in decision-making within the household. Also, the findings of this study revealed that female-headed households in Lesotho, Malawi, Tanzania, Zambia and Zimbabwe have decreased odds of male-involvement in FP decisions than their male-headed households. This is consistent with studies conducted by Adelekan *et al.*[62] and Vouking *et al.*[55]. This possible justification might be because males are the major economic providers in the households and traditionally, men are the heads of households and decision-makers in all issues in their households, so they will decide on FP and the number of children they desire[62].

Marital status of respondents was positively associated with young male involvement in FP decisions. The current study evidenced that males who are married/cohabiting in Lesotho, Malawi, Tanzania, Zambia and Zimbabwe reported increased odds of involvement in FP decisions compared to those who were never married, while respondents who were divorced or separated had increased likelihood of involvement in FP decisions, as compared to their never married counterparts. Also, respondents who were widowed were found to have increased odds of participation in FP decisions, as compared to their never married counterparts, in Malawi, Tanzania and Zimbabwe. This finding was supported by a study conducted in South Africa[63] where the higher odds of FP decision-making is significantly associated with marital status. This could be because joint decision-making between male and female partners to use contraception is a predisposing factor for male involvement in FP decisions among respondents who are married, cohabiting, widowed and divorced/separated. The joint participation in FP decision-making may exert a positive influence in meeting their reproductive health goals together as couples[63].

Strength

Pertaining to the strengths, the dataset used in this study was obtained from nationally representative data, and the variables in the seven Southern Africa DHS dataset were the same, hence comparable across all countries. The study was population-based, with a response rate of > 90%. The data were pooled to create a national prevalence of young males' involvements in FP decisions in the Southern Africa region and across seven countries in the region. Also, the data were pooled to generate a large sample size and increase the generalizability of young males' involvements in FP decisions reported within the five years preceding each country's survey, which ranged from 2014 to 2018 (The DHS Program, ND) and were able to identify the significant determinants of

young males' involvements in FP decisions across the seven Southern African countries to inform policymakers and planners to prioritize their intervention.

Limitations

The findings from this study may not establish a true causal relationship between the outcome variable and independent variables due to the cross-sectional nature of the study design. The data was collected based on self-reporting from young male respondents within the five years preceding the survey, and this could be a potential source of recall and misclassification bias. Some countries in the Southern African Development Community (SADC) were excluded from this study. First, Angola 2015–2016 DHS data were reported in the Portuguese language. Second, Botswana's most recent DHS data was conducted in 1988, which is outside the year range of DHS data used in this study (2014–2018 DHS data), as with Eswatini (Swaziland) (2006–2007 DHS), as well as Namibia, with 2013 DHS data, and Comoros, (2012 DHS data). However, other countries, the Democratic Republic of Congo, Madagascar, Mauritius and Seychelles were excluded from this study as well and the findings of this study may not be representative of the entire Southern Africa countries.

Programme interventions and policy recommendations

Increasing young male participation in FP decision-making and designing FP programmes to change social norms toward family planning services are quite challenging. Scientific evaluations of very few interventions addressing these problems have been conducted thus far, and there is a clear need for health education campaigns to change young men's attitudes and beliefs towards their participation in FP decision-making. Therefore, to increase accessibility, affordability, availability, accommodation, and acceptability of their facilities, FP service providers should strategically design FP platforms that will be more appealing to young male partners to be involved in FP decision making. Given that this study's findings show that men's participation in reproductive health programmes promote favourable health and social outcomes, health care professionals, researchers, and health programme planners should develop and implement a strategic intervention aimed at increasing the participation of both men and women in such programmes and raising awareness of the advantages of male participation in FP. In order to improve the strategic use of communication approaches to encourage and promote changes in knowledge, attitudes, and perceptions of young males' involvements in FP decisions, including FP service utilization, and to encourage considering contextual sociodemographic and household-level factors, knowledge is useful in designing family planning programmes and social behavioural change communication (SBCC) health promotion interventions. Similarly, these results should guide programme planning and policy recommendations to enhance reproductive health in Southern African countries.

Conclusion

Young males' involvements in FP decision-making in the Southern Africa countries was low. Age, education, wealth status, religion, marital status, access to media information, contraceptive knowledge and sex of household head were major determinants of young males' involvements in FP decisions. Strategies to increase the accessibility and availability of FP services for young men should be instituted to address the misconceptions and concerns of men on FP decisions. This will innovatively reconfigure ideas and beliefs surrounding masculinity and male-controlled perspectives in order to lay strong emphases on the positive outcomes if young men are involved in FP decisions within their households and communities. Also, financial support and empowerment programmes should be made available for poor households headed by females to enable partners from each household to have access to and utilize FP health facilities and services, as this could be beneficial. Community-based family planning (CBFP) targeting younger males and their partners with no education are vital to increase awareness about the importance of FP. This can be achieved by bringing FP information and methods to young men and their partners where they live, rather than requiring them to visit health facilities. This will further assist CBFP programmes to

increase access to and choice of contraceptive methods in underserved areas, through a variety of channels, including community health workers, community depots, drug shops, mobile services, and the private sector. In addition, advancing partners and communities supports the expansion of CBFP programmes and services to help accomplish the goal of making the full range of modern FP methods available at the community level, especially at the grassroots' levels.

Author's contribution

MEA conceived the idea, conceptualized and design the study, extensively reviewed the article and was the primary contributor to manuscript writing. MEA analyzed the DHS data sets. MEA and GNO interpreted the analyzed DHS data sets. GNO provided the Turnitin report for the final draft of the manuscript. MEA had discussions with GNO at the proofing stage and paid for the Englich language editing fees. MEA and GNO validated the final draft of the manuscript. ESI is the Postdoc Advisor of MEA. All authors read and approved the final manuscript.

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Conflicts of interest

The authors declare no conflict of interest.

Data availability

Data are from the Demographic and Health Survey and the dataset is open to qualified researchers free of charge. In order to access the data from DHS Measure, a written request was submitted to the DHS MACRO and permission was granted to use the data for this survey. To request access to the dataset, please apply at https://dhsprogram.com/data/dataset admin/loginmain.cfm?

Ethical approval

Institutional Review Board Statement: Ethical review and approval for procedures and questionnaires for standard DHS surveys are provided by the ICF Institutional Review Board (IRB). Country specific DHS survey protocols are reviewed by the ICF IRB and typically by an IRB in the host country.

Informed consent

All human subjects gave their informed consent for inclusion before they participated in the study. Procedures and questionnaires for standard DHS surveys have been reviewed and approved by the ICF International Institutional Review Board (IRB). We obtained approval to use the DHS datasets from the DHS repository (https://dhsprogram.com/data/ available-datasets.cfm). The study was conducted in accordance with the Declaration of Helsinki, as well as with the relevant ethical guidelines and regulations.

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