The association between contraceptive use and desired number of children among sexually active men in Zambia

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Abstract

Background Contraceptive methods have been used to space births, but also to limit a couple's desired number of children. Efforts of family planning programmes have mainly concentrated on females, even though males tend to have large say on the desired number of children a couple should have. In our study, we sought to determine linkages between contraceptive use and desired number of children, as well as associated demographic and socio-economic characteristics, among sexually active males in Zambia.

Methods The main outcome variable of interest was desired number of children as measured by ideal number of children which is a count variable. Data for this paper was the male dataset from the 2018 Zambia Demographic and Health Survey, a cross-sectional national survey. Binary logistic regression was performed to determine odds ratios of contraceptive use by selected characteristics of sexually active males. Multivariate Poisson Regression Model was used to establish factors associated with desired number of children.

Results Age of men (20–29, 30–39 and 40–49 years), residence in rural areas, wealth quintile, Protestant or Muslim religious affiliation, media exposure, and having discussed family planning with a health worker in the last few months prior to the survey were associated with contraceptive use. Sexually active males who reported using any contraception method reported 3% less desired number of children compared to those who were not using any method. Older males (age group 30–49 years), resident in rural areas, with primary education, married, employed, Protestant religion, and those labelling women who use contraceptives "as promiscuous" had more desired number of children.

Conclusions There were minimal differences in the desired number of children among males who reported using and not using any contraceptive method. Strategies aimed at encouraging contraception use should cover all categories of males to achieve universal involvement of men in family planning in Zambia. Future research may consider combining both qualitative and quantitative methods to look holistically at the demographic, socio-economic and cultural factors associated with non-contraception use and desired number of children among sexually active men in Zambia.

Keywords Males, Contraceptive use, Desired number of children, Zambia

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Introduction

Sub-Saharan Africa (SSA) remains one of the regions in the world with high fertility compared to other regions. On average, the United Nations Department for Economic and Social Affairs (UNDESA) found that a woman in SSA was found to have 4.6 children in her reproductive life, a figure twice as high as the global average of 2.4 children [1]. Modest declines in birth rates have slowed even further over the last few decades, causing concerns as to whether women and men have access to contraceptives in Africa and SSA in particular [2]. Lack of, or inconsistent and incorrect, contraceptive use is associated with unintended or mistimed pregnancies [3], unsafe abortions [3, 4] and maternal mortality [3].

To overcome this, most countries have been implementing family planning (FP) and sexual reproductive health (SRH) related services, including contraceptives [5]. These services allow women and men to acquire the knowledge that helps them to decide on the number of desired children they would want to have and their spacing. Like other countries within SSA such as Zimbabwe and Rwanda, Zambia has implemented some of the best FP and SRH programmes—with minor challenges [5]. Therefore, FP remains a fundamental area of action in Zambia if it is to lower its fertility levels [6]. The 2018 Zambia Demographic and Health Survey (ZDHS) shows that knowledge of any method of contraception among married men aged 15–59 years is almost universal (99.9%). Though it did not report the percentage of sexually active men using contraceptives, findings indicate that in Zambia, men want to have slightly more children than women, 4.9 children and 4.6 children, respectively [7]. Moreover, studies conducted elsewhere indicate that most men use contraception for spacing rather than from limiting the desired number of children [8–11].

Evidence on contraceptive use and desired number of children among sexually active men in Zambia is not yet clear, as studies have either concentrated on one of the two outcomes of this study and usually among females [12–15]. Further, studies to understand the role that men play in contraceptive use and the desired number of children have received limited attention [16–18].

Further, there is a perceived negative attitude, mostly by men, towards SRH behaviour presumably resulting from unmet need for and use of contraceptives [16, 18]. In addition, there exists strong cultural beliefs that matters of contraception are a concern for women and not men [19, 20]. This therefore tends to deter sexually active men from seeking access to contraceptives and health information, thereby exposing not only themselves but also their partners to unintended pregnancy [21, 22].

This scenario, if left unchecked, may exacerbate the existing challenges of high fertility, maternal and infant mortality as well as high-unwanted pregnancies and abortions. Whereas SRH services are available in most health facilities in Zambia, they are perceived to be for women [23, 24]. Contraceptive options for men are limited to male condoms and vasectomies, with the latter being shunned due to its invasive nature. This makes it almost impossible for men to access contraceptive options to "merely" limit the number of desired children [25, 26].

Before this study, no literature was found on research conducted in Zambia on sexually active men contraceptive use and the link it has to desired number of children. Most of the studies conducted around this topic have concentrated on women's reproductive health and FP services utilization [18, 27]. Moreover, many times, studies on male contraceptive use and desired number of children have been conducted in middle income countries [26, 28]. Such studies have seldom been conducted in Zambia, a country where sexually active men still have insurmountable influence on the desired number of children a couple must have. To build on this existing knowledge this study sought to examine the association between contraceptive use and the desired number of children among sexually active men aged 15–59 years in Zambia.

Methodology

Data source

This study utilized the male recode dataset (ZMMR71FL) from the 2018 Zambia Demographic and Health Survey (ZDHS), the sixth survey conducted in Zambia since 1992. DHSs are surveys with a nationally representative sample designed to produce estimates on a range of basic demographic and health indicators at national and sub-national levels, with further disaggregation to have estimates in rural and urban settings.

Sampling design and procedure

The 2018 ZDHS sample was drawn from enumeration areas (EAs) lists captured during the 2010 Census of Population and Housing (CPH). The EA frame of the 2010 CPH was updated to accommodate realignments of districts and constituencies where some districts and constituencies were demarcated to form new ones. DHS use a stratified two-stage cluster sample design. Sample clusters consisting of EAs selected with a probability proportional to their size within each sampling stratum. About 545 clusters (198 in urban areas and 347 in rural areas) were selected at first stage while the second stage involved systematic sampling of households in all selected clusters (EAs). An average of 133 households were found during household listing from which 25 households were selected using an equal probability

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systematic selection process, to obtain a total sample size of 13,625 households.

All men aged 15–59 years who were either permanent residents of the households or visitors present in the households on the night before the survey were eligible to be interviewed. As noted already, all variables of analysis were based on the man's recode dataset. The Man's Questionnaire collected information from all eligible men at household level on topics such as background characteristics, reproduction, contraception, marriage and sexual activity, fertility preferences, employment and HIV/AIDS. Prior to conducting an interview during the 2018 ZDHS, informed consent was obtained from all the selected eligible men for interviews. For this current study, the authors obtained approval from the DHS Program to use the 2018 ZDHS male dataset.

Target population and sample size

For this study a subsample, which included all sexually active men was drawn. During the 2018 ZDHS, 12,132 males aged 15–59 years were interviewed on various topics. However, our study excluded the following men: never had sex (1,803); no sex in the 12 months prior to the survey (657); male and female sterilization methods of contraception (55); male or partner declared infecund (111) and non-numeric response on ideal number of children (183). Therefore, a total of 9,378 unweighted sample and a weighted sample of 9,333 men was included as the sample size for this study.

Study variables

Dependent variables

The study had one main outcome variables: Desired number of children as measured by ideal number of children. However, before doing this, the study further wanted to establish the prevalence of contraceptive use among sexually active males and the factors associated with its use. To do this, contraceptive use was generated as a dichotomous variable based on current contraceptive use where the response of "0" meant "no use of any method" and "1" meant "using any method of contraception". All missing cases and those who reported "did not know" response was excluded from the analysis. The main outcome variable *desired number of children* as measured by "ideal number of children" was collected as a count variable; as in prefer 1, 2, 3, 4, or so children. In the regression model, desired number of children was analysed as a count and was not recoded.

Independent variables

The explanatory variables used in this study included: Age of men coded as 15–19 (reference category), 20–29, 30–39, 40–49, 50–59. Place of residence categorized as urban (reference category) and rural. Education level categorized into no education, primary, secondary, higher education (reference category). Wealth index was used as a proxy measure of household's wealth recoded as poorest, poorer, middle, richer and richest wealth quintiles (reference category). Current marital status was in three categories: never married (reference category), currently married and formerly married. Other explanatory variables included, religion, discussing family planning with a health worker, media exposure, and attitudes towards contraception use by women amongst males.

Statistical analysis

Analysis of data was done using Stata version 15. For both explanatory and predictor variables, descriptive statistics were performed. In order to consider the complex nature of the sampling process and ensuring standardization of estimates, the data analysis procedure included weighting the data using the Stata command "svy". To determine associations between independent and dependent variables, Chi-square was used. Before performing multiple regressions, multicollinearity tests were done among independent variables to detect presence of collinearity. Considering that the outcome variable, *desired number of children* as measured by "ideal number of children" was concentrated over few small discrete values, we used count data regressions. Specifically, we employed the Poisson Regression model to establish factors associated with desired number of children among men 15 – 59 years. The Adjusted Incidence Rate Ratio (AIRR) results with *p*-values and 95% confidence intervals (CI) were considered.

Results

Distribution of respondents by characteristics

In Table 1, results show that about five in every ten males (50%) were using contraceptive methods (modern or traditional). The age group 20–29 years had the highest percentage of the study population (34%) while the lowest was in the age group 50–59 years (8%). Fifty-nine percent of males resided in rural areas, 48% had attained secondary education; 21% and 22% respectively were in the richest and richer wealth quintiles. Sixty-six percent of the men were currently married. About nine in ten (85%) males were currently working, and 79% were of the Protestant religion. Results show that about 17% of men reported to have discussed family planning with a health worker. Thirty-eight percent of the men had exposure to media. Table 1 also shows that only 24% of men agreed to the statement "contraception is a woman's business, a man should not worry", while about 39% of the men agreed to the statement "women who use contraception become promiscuous."

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Table 1 Percentage distribution of men by demographic, socio-economic and other characteristics

Variable	Percent	Count
Contraceptive use		
None	50.2	4,687
Any contraception	49.8	4,646
Age group		
15 – 19	11.1	1,038
20 – 29	34.0	3,170
30 – 39	26.8	2,502
40 – 49	19.7	1,840
50 – 59	8.4	783
Type of place of residence		
Urban	41.4	3,862
Rural	58.6	5,471
Educational level		
No education	4.3	405
Primary	38.6	3,598
Secondary	47.8	4,461
Higher	9.3	870
Wealth index		
Poorest	17.9	1,675
Poorer	18.6	1,740
Middle	20.4	1,906
Richer	21.6	2,020
Richest	21.3	1,992
Marital status		
Never married	29.8	2,783
Currently married	65.9	6,150
Formerly married	4.3	400
Employment status		
Not working	15.2	1,416
Currently working	84.8	7,917
Religion		
Catholic	19.5	1,824
Protestant	78.9	7,361
Muslim	0.6	53
Other	1.0	95
Discussed FP with health worker in last few months		
No	83.0	7,745
Yes	17.0	1,588
Media exposure		
No exposure	61.6	5,753
Exposed	38.4	3,580
Contraception is woman's business, man should not worry		
Disagree	73.3	6,846
Agree	24.1	2,246
Don't know	2.6	242
Women who use contraception become promiscuous		
Disagree	58.4	5,450
Agree	38.6	3,602
Don't know	3.0	282
Total	100.0	9,333

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Contraceptive use and sexually active men's characteristics

Table 2 shows results of the chi-square test between contraceptive use and men's demographic, socioeconomic, and other characteristics. Results show that contraceptive use is significantly related ($p < 0.05$) with the following men's characteristics: age group, type of place of residence, highest education level attained, wealth status, marital status, religion, discussion of family planning with health worker, access to media and the statement "contraception is a woman's business, a man should not worry". However, employment status (working or not working) and the perception that "women who use contraception become promiscuous" were not significantly related with contraceptive use among men ($p > 0.05$).

Factors associated with contraceptive use among sexually active men in Zambia

Table 3 shows Adjusted Odds Ratios (AORs) between various explanatory variables and contraceptive use among men. The odds of men using contraception were 49%, 75% and 43% higher among men aged 20 – 29, 30 – 39 and 40 – 49 years compared with those aged 15 – 19 years, respectively. Men whose place of residence was rural areas had 38% higher odds of using contraception compared with those in urban areas.

Contraception use increased with better wealth index. It however was lower among currently married men (24%) than among those that had never been married. The odds of contraception use were higher among Protestants and Muslims (23% and 44%) than among Catholics. Results further show that men who discussed family planning issues with a health worker had higher odds (41%) of contraception use than those who did not. Besides, Table 3 also shows that, contraception use among men was higher among those exposed to media (21%) compared with those who were not.

The association between contraceptive use and desired number of children among sexually active men in Zambia

Table 4 presents unadjusted incident rate ratio (UIRR) for the association between the desired number of children and contraceptive use among men in Zambia. The UIRR for men who used any contraception was 0.91 times the incident rate for those who reported not using any contraception.

Factors associated with desired number of children among sexually active men in Zambia

Results in Table 5 show that the adjusted incident rate ratio (AIRR) for men who used any contraception was 0.96 times the incident rate for those who reported not using any contraception. Men in the age group 20–29, 30–39, 40–49 and 50–59 had 0.93, 1.05, 1.20- and 1.31-times incident rates of those in the age group 15–19, respectively. The incident rate for men who resided in rural areas was 1.12 times that for men who resided in urban areas. Men with primary and higher education had incident rates of 1.07 and 0.87 that for men with no education, respectively. Regarding wealth status, men in middle, richer and richest households had 0.93, 0.91 and 0.85-times incidence rates compared with the poorest households, respectively.

Currently married men had 1.09 times incident rates than those who have never been married. Results in Table 5 also show that the incident rate for men who were in employment was 1.05 times those who were not in employment. The incident rate for men whose religion was Protestant was 1.04 times the incident rate for Catholics. Men who agreed and those who said they do not know whether "contraception is a woman's business" had 0.96- and 0.92-times incident rate those who disagreed, respectively. Similarly, men who think "women who use contraceptives as promiscuous" had 1.05 times the incident rates than those who disagreed.

Discussion

It is widely recognized that consistent and correct use of contraceptives by couples can help space and or limit the number of children. This paper aimed at examining the association between contraceptive use and the desired number of children among sexually active males aged 15–59 years in Zambia. Findings from this present study showed that use of any contraceptive method among sexually active males is low in Zambia (50%). This result is different to prior research conducted in Myanmar, where it was established that only about 39% of the males were using modern contraception [29]. This might be because, though currently the FP services have also started targeting males, especially among couples, little is being done to increase awareness-raising campaigns that traditionally have targeted men [30]. These campaigns will continue to be critical owing to the very important traditional family roles men are said or expected to play within the family.

While the forgoing is true, others have argued that the desire for boy-children and accusing female partners of salacious behaviour contributes to men not wanting to use contraceptives [16, 31]. Others have also argued that in Africa most people would love to have lower numbers of children with acceptable spacing. One of the challenges faced, however, is that FP services are limited in supply and usually unavailable when needed [32].

It is worth noting from this current study that, there exists a significant relationship between males using

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Table 2 Contraceptive use among sexually active men by demographic, socio-economic and other characteristics

Variable	Contraceptive Use				Number	P-value
	None		Yes, used any method			
	%	CI	%	CI		
Age group						0.000
15 – 19	55.8	[51.5,60.0]	44.2	[40.0,48.5]	1,038	
20 – 29	47.2	[44.8,49.6]	52.8	[50.4,55.2]	3,170	
30 – 39	45.8	[43.3,48.3]	54.2	[51.7,56.7]	2,502	
40 – 49	51.6	[48.6,54.6]	48.4	[45.4,51.4]	1,840	
50 – 59	66.0	[62.1,69.8]	34.0	[30.2,37.9]	783	
Type of place of residence						0.008
Urban	47.4	[44.4,50.5]	52.6	[49.5,55.6]	3,862	
Rural	52.2	[50.5,53.9]	47.8	[46.1,49.5]	5,471	
Educational level						0.000
No education	57.1	[50.9,63.2]	42.9	[36.8,49.1]	405	
Primary	57.8	[55.5,60.2]	42.2	[39.8,44.5]	3,598	
Secondary	45.9	[43.7,48.1]	54.1	[51.9,56.3]	4,461	
Higher	37.7	[32.3,43.5]	62.3	[56.5,67.7]	870	
Wealth index						0.000
Poorest	59.8	[57.1,62.5]	40.2	[37.5,42.9]	1,675	
Poorer	53.6	[50.9,56.3]	46.4	[43.7,49.1]	1,740	
Middle	49.5	[47.1,51.9]	50.5	[48.1,52.9]	1,906	
Richer	49.0	[45.3,52.7]	51.0	[47.3,54.7]	2,020	
Richest	41.1	[38.0,44.3]	58.9	[55.7,62.0]	1,992	
Marital status						0.007
Never married	46.9	[44.4,49.5]	53.1	[50.5,55.6]	2,783	
Currently married	51.8	[49.9,53.7]	48.2	[46.3,50.1]	6,150	
Formerly married	48.8	[42.2,55.4]	51.2	[44.6,57.8]	400	
Employment status						0.370
Not working	48.5	[44.9,52.1]	51.5	[47.9,55.1]	1,416	
Currently working	50.5	[48.6,52.4]	49.5	[47.6,51.4]	7,917	
Religion						0.003
Catholic	53.9	[50.5,57.2]	46.1	[42.8,49.5]	1,824	
Protestant	49.3	[47.7,50.9]	50.7	[49.1,52.3]	7,361	
Muslim	37.1	[25.8,50.0]	62.9	[50.0,74.2]	53	
Other	59.6	[47.6,70.6]	40.4	[29.4,52.4]	95	
Discussed FP with health worker in last few months						0.000
No	51.8	[50.1,53.4]	48.2	[46.6,49.9]	7,745	
Yes	42.7	[39.7,45.8]	57.3	[54.2,60.3]	1,588	
Media exposure						0.000
No exposure	53.8	[52.1,55.5]	46.2	[44.5,47.9]	5,753	
Exposed	44.5	[41.8,47.3]	55.5	[52.7,58.2]	3,580	
Contraception is woman's business; man should not worry						0.000
Disagree	48.8	[47.2,50.4]	51.2	[49.6,52.8]	6,846	
Agree	53.7	[50.8,56.5]	46.3	[43.5,49.2]	2,246	
Don't know	58.1	[51.6,64.4]	41.9	[35.6,48.4]	242	
Women who use contraception become promiscuous						0.449
Disagree	50.0	[48.1,52.0]	50.0	[48.0,51.9]	5,450	
Agree	50.2	[48.0,52.3]	49.8	[47.7,52.0]	3,602	
Don't know	54.5	[47.9,60.8]	45.5	[39.2,52.1]	282	
Total	50.2	[48.7,51.8]	49.8	[48.2,51.3]	9,333	

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Table 3 Adjusted odds rations on the factors associated with contraceptive use among sexually active men in Zambia

Variable	Contraceptive Use	
	AORs	CI
Age group		
15 – 19	1	
20 – 29	1.49***	1.18—1.89
30 – 39	1.75***	1.32—2.32
40 – 49	1.43*	1.08—1.88
50 – 59	0.77	0.56—1.05
Type of place of residence		
Urban	1	
Rural	1.38***	1.18—1.62
Educational level		
No education	1	
Primary	0.98	0.75—1.28
Secondary	1.31	0.97—1.77
Higher	1.50	0.99—2.29
Wealth index		
Poorest	1	
Poorer	1.26**	1.09—1.45
Middle	1.49***	1.28—1.73
Richer	1.62***	1.33—1.98
Richest	2.02***	1.60—2.55
Marital status		
Never married	1	
Currently married	0.76**	0.63—0.91
Formerly married	0.87	0.61—1.24
Employment status		
Not working	1	
Currently working	0.87	0.73—1.04
Religion		
Catholic	1	
Protestant	1.23**	1.07—1.41
Muslim	2.44**	1.38—4.33
Other	0.98	0.58—1.65
Discussed FP with health worker in last few months		
No	1	
Yes	1.41***	1.22—1.64
Media exposure		
No exposure	1	
Exposed	1.21**	1.07—1.38
Contraception is woman's business, man should not worry		
Disagree	1	
Agree	0.88*	0.77—1.00
Don't know	0.81	0.57—1.16
Women who use contraception become promiscuous		
Disagree		
Agree	1.09	0.97—1.22
Don't know	1.11	0.79—1.55

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

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Table 4 Unadjusted Incident rate ratio of the association between contraceptive use and desired number of children among sexually active men in Zambia

Variable	IRR	CI
Contraceptive use		
None	1	
Used any contraception	0.91***	0.88—0.94
Constant	5.52***	5.37—5.68

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

contraceptives and desired number of children as revealed by both the unadjusted and adjusted IRRs. Nonetheless, there was minimal differences in the desired number of children between men who reported using any contraception method and those not using. Studies conducted elsewhere reveal that patrilineal traditions tend to perpetuate value for children and encourages large family size [30]. Therefore, what influences decisions is not mostly a factor of use or non-use of contraception but what the larger family feels and expects. Such undertones seem to be applicable to the case in Zambia, given these results.

Younger males reported having a lower desired number of children compared to those in the age group 45 – 49. This is not an "out of range" result as it were. It seems, younger males when compared to the older ones, may not have a concrete disclosure of what they would perceive as a desired number of children. This is even though age is a key factor that influences fertility. Some more recent studies confirm that a man's age affects conception in women, however, male potency to impregnate a woman dwindles significantly after age 40 due to several reasons but among them is low sperm quality [33].

Compared to other studies of a similar nature, this study reveals that the desired number of children for males residing in rural areas was 8% higher compared to those who reside in urban areas. Various reasons can be advanced for this observed phenomenon. Firstly, men in rural areas are culturally sensitive and therefore are more likely to prefer more children than their urban counterparts [34]. In many communities of Africa, Middle East and parts of Latin America, children have economic value since they are a cheap source of labour, wealth, and financial security [30] Secondly, contraceptive choices in rural areas are significantly limited for both men and women due to low supply and in some cases, long distances to access them [35]. With such challenges, it becomes a costly affair and a luxury for males to find contraceptives, let alone use contraceptives [30].

Our study shows that men who had attained secondary and tertiary education have lower relative risk of desired number of children compared with those with no education. This is like studies [29, 36] that found that men with

a higher level of education were less likely to desire more than two children compared with men with no education. Moreover, low levels of education among males are likely to lead to enhanced misconceptions about contraceptive use and assumed side effects. Besides, it can equally lead to limitations in accessing information that can change their cultural construct whose result is a large family size. Similarly, men from households classified as poor and middle in terms of wealth status were more likely to have higher desired number of children compared with men from households considered rich. This finding is not surprising as most households in Zambia with more children are those in the poor wealth group and in rural areas [37].

In the African context, men who are employed are seen as being wealthy and usually tend to have more partners and children because, generally, they can support their children and families [38]. Findings from our study reveal that men who are currently employed had higher chances of increasing their desired number of children compared to the unemployed. This can be explained by the fact that, in a country where unemployment is low for women than that of men, women would rather be associated with men who are both currently working and have a stable income. Furthermore, these men tend to be the main decision maker regarding the desired number of children, as they will be able to control their women due to their employment status [39].

Religion plays a major role in determining the number of desired children a couple may wish to have. Our study reveals that Protestants had a 4% higher chance of having more children than Catholics. This result is at variance with what [34] had been found in a study in Kenya among Muslims where they had higher odds of having more children than Catholics. Moreover, it is documented that religion amplifies the idea of more children [30].

Media exposure is critical for informing, educating, and communicating accurate and relevant information on fertility and related topics. Therefore, access and utilisation of such information may be significant in reducing unwanted fertility observed in Zambia. Findings from our study, show that there are no significant differences in preference for children between males who had no access to media and those who had access. This deviates from other studies where the media is suggested to influence decision making with regards to fertility and that men who are rarely engaged as principal targets for Information, Education and Communication (IEC) sensitizations on contraceptives and fertility related issues often prefer more children [34]. Moreover, it is argued that when men have more information, there is a high chance that their awareness is enhanced, and they become active participants of fertility regulation thereby contributing to reduction in unintended fertility as there is a convergence of the means and social cultural changes [40].

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Table 5 Adjusted incident rate ratio for the factors associated with desired number of children among sexually active men in Zambia

Variable	AIRR	CI
Contraceptive use		
None	1	
Used any contraception	0.96***	0.94—0.98
Age group		
15 – 19	1	
20 – 29	0.93**	0.89—0.97
30 – 39	1.05*	1.00—1.11
40 – 49	1.20***	1.14—1.26
50 – 59	1.31***	1.23—1.39
Type of place of residence		
Urban	1	
Rural	1.12***	1.05—1.18
Educational level		
No education	1	
Primary	1.07**	1.02—1.13
Secondary	0.98	0.93—1.04
Higher	0.87***	0.80—0.93
Wealth index		
Poorest	1	
Poorer	1.00	0.97—1.04
Middle	0.93***	0.89—0.97
Richer	0.91*	0.83—0.99
Richest	0.85***	0.78—0.92
Marital status		
Never married	1	
Currently married	1.09***	1.06—1.13
Formerly married	1.00	0.94—1.07
Employment status		
Not working	1	
Currently working	1.05**	1.02—1.09
Religion		
Catholic	1	
Protestant	1.04*	1.01—1.07
Muslim	1.00	0.87—1.14
Other	1.07	0.89—1.28
Discussed family planning with health worker in last few months		
No	1	
Yes	1.02	0.99—1.05
Media exposure		
No exposure	1	
Exposure	0.98	0.95—1.00
Contraception is woman's business; man should not worry		
Disagree	1	
Agree	0.96*	0.93—1.00
Don't know	0.92*	0.85—0.98
Women who use contraception become promiscuous		
Disagree	1	
Agree	1.05**	1.01—1.08
Don't know	1.01	0.94—1.09

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

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Attitudes towards contraception use does affect its use or non-use. Studies relative to ours found similar results with women who tend to utilize family planning services mostly accused of being adulterous and, in turn, avoid becoming pregnant for their male partners [34].

Study limitations

The DHS data can only estimate associations and not causation as such, what is presented herein are associations which may not respond to how or why certain results appear in the manner they do. Furthermore, estimates of any contraceptive use may be underestimated or overestimated because of recall bias given the retrospective nature of the data used. Men may not always be aware that their partners are taking a method, such as pills, injectable, implants, or an intrauterine device, when no prior discussions have been had or when a method is not something a man would approve of.

Conclusion

Core to reducing the desired number of children and ultimately fertility in a country with high fertility is the critical role that men play in the use of contraceptives if the desired number of children is to be reduced. Contraception use is highly influenced by demographic and socio-economic characteristics of males. Importantly, this study has revealed that any contraception usage alone is not a major determinant in men's desired number of children. Both demographic and socio-economic factors have a major influence to provide guidance on increased male involvement in family planning activities among sexually active men in Zambia.

There still exist some ideas among the Zambian populace that men assumed to be rich should have a higher desired number of children because they can take care of them. This is coupled with misconceptions that women who use contraception are promiscuous. Therefore, to enhance uptake of contraceptive use and reduce these misconceptions, there is need for enhanced FP and IEC for this group of males. Besides, strategies aimed at encouraging contraception use should cover all categories of men to achieve universal involvement in FP in Zambia. Future research may consider combining both qualitative and quantitative aspects to have a holistic picture of how demographic, socio-economic, and cultural factors would affect non-contraception use and desired number of children among sexually active men in Zambia.

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Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
AORs	Adjusted Odds Ratios
CI	Confidence Interval
CPH	Census of Population and Housing
DHS	Demographic and Health Survey
EA	Enumeration Area
EAs	Enumeration Areas
FP	Family Planning
FPC	Family Planning and Contraceptive
HIV	Human Immunodeficiency Virus
ICPD	International Conference on Population and Development
IEC	Information Education and Communication
IVs	Independent Variables
MoH	Ministry of Health
SDGs	Sustainable Development Goals
SRH	Sexual and Reproductive Health
TFR	Total Fertility Rate
UIRR	Unadjusted Incident Rate Ratio
UNDESA	United Nations Department of Economic and Social Affairs
UN	United Nations
ZDHS	Zambia Demographic and Health Survey
ZamStats	Zambia Statistics Agency

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Availability of data and materials

The dataset can be accessed following clearance after written request at https://dhsprogram.com/Data/. Dataset and materials used in this paper are available on request from the corresponding author (bwalya83@gmail.com).

Declarations

Ethics approval and consent to participate

The 2018 ZDHS protocols including methodology and all questionnaires were approved prior to implementation by national and international Institutional Review Boards (IRBs) at the Tropical Diseases Research Centre (TDRC) in Zambia and at ICF International (ZamStats et al., 2019). During data collection, informed consent to participate in the survey was obtained from all eligible men selected. As such, no ethical clearance and informed consent to participate was obtained. Although this data included human subjects, data analysis was based on secondary data and permission was granted to us by DHS Program for us to use the 2018 male ZDHS dataset (ZMMR71FL) in Stata format. The data provided was anonymized by the DHS Program. In addition, no potentially identifying information is part of this dataset. The data was utilized in accordance with all the rules governing its usage.

Consent for publication

No images, individual details or videos for clients' data are part of this paper.

Competing interests

The authors declare that they have no competing interests.

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