

Research

Corresponding author

Thomas Obinchemti Egbe, MD

Faculty of Health Sciences
Department of Obstetrics and
Gynecology

University of Buea

Douala General Hospital

Douala, Cameroon

E-mail: obinchemti@yahoo.com;

toegbe@gmail.com;

tom.egbe@outlook.com

Volume 1 : Issue 3

Article Ref. #: 1000WHOJ1112

Article History

Received: January 31st, 2016

Accepted: February 8th, 2016

Published: February 10th, 2016

Citation

Egbe TO, Ketchen SA, Egbe E-N, Ekane GEH, Belley-Priso E. Risk factors and barriers to male involvement in the choice of family planning methods in the Buea Health District, South West Region, Cameroon: a cross-sectional study in a Semi-Urban area. *Women Health Open J.* 2016; 1(3): 82-90. doi: [10.17140/WHOJ-1-112](https://doi.org/10.17140/WHOJ-1-112)

Copyright

©2016 Egbe TO. This is an open access article distributed under the Creative Commons Attribution 4.0 International License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Risk Factors and Barriers to Male Involvement in the Choice of Family Planning Methods in the Buea Health District, South West Region, Cameroon: A Cross-Sectional Study in a Semi-Urban Area

Thomas Obinchemti Egbe, MD^{1*}; Serah Ashunya Ketchen, BSc, MPH²; Eta-Nkongho Egbe, MD³; Gregory Edie Halle Ekane, MD¹; Eugene Belley-Priso, MD⁴

¹Faculty of Health Sciences, Department of Obstetrics and Gynecology, University of Buea, Douala General Hospital, Douala, Cameroon

²Faculty of Health Sciences, Department of Family Health, Ministry of Public Health, University of Buea, Yaounde, Cameroon

³District Hospital Poli, North Region, Poli, Cameroon

⁴Faculty of Medicine and Biomedical Sciences, Department of Obstetrics and Gynecology, University of Yaounde 1, Douala General Hospital, Douala, Cameroon

ABSTRACT

Background: Family Planning (FP) promotion and services are often focused on women, but nonetheless men have an important role to play also. Engaging men in family planning programs and services has the potential to improve the use of FP methods, increase healthy pregnancy timing and child spacing, and improve on the overall health of the community. It may also facilitate decision-making by men and their partners in reproductive health matters that include FP.

Objectives: The aim of this study is twofold; to 1) determine the risk factors associated with male involvement in the choice of FP methods; and 2) describe the perceived barriers to male involvement in family planning.

Methods: We conducted a cross-sectional, community-based study among men in the Buea Health District (BHD). The multistage sampling technique was used to select four health areas and twenty communities. Eligible participants were selected by consecutive and convenient sampling and were administered a structured questionnaire to measure their involvement in the choice of FP methods. Socio-demographic and reproductive characteristics of participants were obtained; and so were communication factors and barriers in FP. The logistic regression model was used to determine the factors associated with male involvement. Statistical significance was set at $p < 0.05$.

Results: A total of 292 men participated in this study, more than half (57.2%) of whom were involved in the choice of FP methods. Factors affecting the choice of FP methods were men's age ((adjusted Odds Ratio (aOR)=0.35; 95% Confidence Interval (CI): 0.12-0.86; $p=0.042$)), knowledge level (aOR=2.62; 95% CI: 1.50-4.58; $p=0.001$), educational level (aOR=2.45; 95% CI: 1.10-5.48; $p=0.029$), partners level of education (aOR=2.37; 95% CI: 1.12-5.02; $p=0.024$) and birth spacing between partners last two deliveries (aOR=3.14; 95% CI: 1.48-6.68; $p=0.003$). The identified barriers to male involvement were financial constraints (lack of money), conception difficulties, inadequate information on FP methods, tradition, unskilled healthcare providers, weight gain by partners, and desire for large family size.

Conclusion: This study revealed that men in the BHD were highly involved in FP. Their age, level of education, FP knowledge level, partner's level of education, and birth spacing between partner's last two deliveries were among the factors that influenced male involvement in FP. Identified barriers to male involvement in FP methods were lack of money to pay for FP meth-

ods, conception difficulties of their partners, inadequate information on FP, desire for large family sizes, tradition, unwanted weight gain (side effect of female contraceptive methods), and unskilled health care providers.

KEYWORDS: Male involvement; Family planning; Buea Health District; Cross-sectional study.

ABBREVIATIONS: FP: Family Planning; aOR: adjusted Odds Ratio; CI: Confidence Interval; IRB: Institutional Review Board; SD: Standard Deviation.

INTRODUCTION

Family Planning (FP) is one of the main interventions required to improve on sexual and reproductive health choices of individuals and communities. It enables individuals and couples to have a healthy sexual life by deciding freely on the number of children they want and when they want them.^{1,2}

The global use of contraceptives has increased slightly, from 54% in 1990 to 57% in 2012. In Asia, 62% of the women use contraceptives; in Latin America and in the Caribbean, the figure has gone from 64% to 67%. In Africa, the use of contraceptives remains very low; it went from 23% in 2008 to 24% in 2012.³ In Cameroon in particular, the rate increased from 16.1% in 1991 to 23.4% in 2011.⁴ This low uptake has been due to negative perceptions regarding FP among men (a woman's problem, time consuming, meant for prostitutes, lack of enough family planning clinics and expenses to pay for FP activities). Furthermore, FP is not much embedded in their culture.

The proportion of male participation varies across countries. This proportion is higher in more developed countries where it stands at approximately 63.2%,³ and lower in sub-Saharan Africa where it ranges from 4.8%⁴ to 40%.⁵

In Africa, and particularly so in Cameroon, men believe FP to be the woman's responsibility, with their own role being limited to making financial contributions towards its pursuit.^{2,6} This explains why male contraceptive methods are few and for the most part unknown to would-be users. Even among those who use them, most complain of lack of satisfaction with the method. Majority of men complain of not having adequate sexual pleasure with the condom. The situation is not made any better by fear of side effects of female methods. To these inhibiting factors must be added poor access to family planning services,⁷ men-unfriendly FP services, unwelcoming healthcare workers, preference for large family sizes, religious sanctions, lack of finances, and long waiting times at FP clinics.⁶

The aim of this study is twofold: 1) to determine the risk factors associated with male involvement in the choice of Family Planning methods; and 2) to describe the perceived barriers to male involvement in family planning.

MATERIALS AND METHODS

Study Design

This was a cross-sectional, community-based study carried out during the period 20th April to 16th May 2015.

Study Area and Setting

The Buea Health District, with an estimated population of 147, 891 inhabitants, is one of the eighteen Health Districts in the South West Region. It has seven health areas, each made up of a number of communities or quarters. It is from these communities, sixty-seven of them in all, that the study participants were enrolled.

Study Population and Sampling

Study population: This was made up of men aged 21 and above, in the Buea Health District in the South West Region of Cameroon.

Sample size calculation: The statistical software Epi info version 7.1.3.0 was used to calculate the sample size using the one proportion formula. The proportion (p) for male involvement in family planning was assumed to be 18% ($p=0.18$) from a previous study⁸; 95% CI and 5% tolerable error and design effect of 1.5 for multistage sampling from previous study.³ Therefore, using the formula,⁹ we obtained a calculated minimum sample size of 340 participants needed for study.

Sampling method: Multistage sampling was conducted in four stages to obtain the desired number of participants.

There are seven health areas in the Buea Health District: Bokwango, Bova, Buea Road, Molyko, Muea and Tole. Molyko was excluded from this study because the majority of its population are university students, who are not very stable for follow-up and are dependent on their parents for subsistence.

Stage 1: Four out of six Health Areas were randomly selected from the District, without replacement.

Stage 2: Using simple random sampling, five communities were selected within each Health Area. This amounted to twenty communities from which data was collected.

Stage 3: Seventeen households were then conveniently chosen from each community

Stage 4: Lastly, one eligible respondent was chosen from each household.

Eligibility criteria: The participants included in this study were men aged 21 years of age or older, with at least a partner, and who freely consented to be part of the study. Participants were expected to have spent at least the past six months in the health area.

Exclusion criteria: Participants who had not spent the past six months in a particular household were not eligible; nor were those who did not approve of the study.

Study Procedures

Administrative approvals were obtained from the Faculty of Health Sciences, University of Buea, the South West Regional Delegation of Public Health, and from the Buea Health District. Ethical approval was obtained from the Institutional Review Board (IRB) of the Faculty of Health Sciences, University of Buea.

Informed consent was obtained from participants. The data was collected using a structured questionnaire.

Participant recruitment: Once in the households, adequate information on the study was given to the household members and only one eligible participant was selected from each household.

Interview: After written informed consent was obtained from the participant, data was collected using a structured questionnaire. The data collected focused on factors associated with male involvement in the choice of FP methods (socio-demographic, reproductive and communication factors) and on barriers to male involvement. The questionnaire was both self and interviewer administered.

Data Management and Analysis

The questionnaire was in the English language and contained information on male involvement, knowledge of FP, socio-demographic details, and reproductive and communication variables. The data collected was checked on a daily basis for completeness and accuracy after having been transformed into electronic readable versions, and after specific codes and names had been assigned to the variables. All missing data were entered as "missing". Data was backed up in an external hard drive for safety.

Data collected was entered into Microsoft Access (MS) access interface on Epi-info version 7.1.3.0. The statistical analysis was done using STATA version 10 (STATA corps, Texas USA). The questions aimed for both quantitative and qualitative data. Continuous variables were described using means, medians, standard deviations and interquartile ranges. Absolute and relative frequencies were used to describe categorical variables and were reported as such.

The following three categories of factors associated with male involvement in the choice of family planning methods were studied:

- **Socio-demographic factors:** Age, education level, religion, marital status, employment status, age of partner, level of education and employment status of partner.

- **Reproductive factors:** Current number of living children, duration of birth spacing, desired number of children, and current use of any family planning methods.

- **Communication factors:** Discussion of family planning methods, approval of its use.

The categorical variables were described using numbers and proportions while continuous variables were described using mean, Standard Deviation (SD), median and range.

To assess the factors associated with male involvement, selected variables from socio-demographic factors (age, education level, employment status, age of partner, education level of partner and employment status of partner), reproductive factors (current living children, desired number of children and birth spacing), and FP knowledge level were analyzed. For categorical variables, the proportion of men who were highly involved in the choice of FP methods in each category of the factors was indicated. These proportions were compared using Chi-square test or Fischer's exact test where appropriate. Also, Odds Ratio (ORs) and 95% CI were reported. For continuous variables, the mean, SD or range for men whose involvement is high or low was indicated. The means were compared using the Student t-test. Statistical significance was set at $p < 0.05$.

Furthermore, the association between the predictors (men's age, level of education, employment status, age of partner, level of education of partner, employment status of partner, current living children, the desired number of children, birth spacing and FP knowledge) and men who were highly involved in the choice of FP methods was computed to get the adjusted odds ratio and 95% CI. Statistical significance was set at $P < 0.05$.

To describe the perceived barriers of male involvement in family planning a qualitative data were used where participants gave their opinion about the barriers to their participation in family planning. These barriers were grouped into the following three categories: 1) individual barriers, 2) healthcare provider's barriers, and 3) health facility barriers. The frequencies and percentages for each category were reported.

Ethical Considerations

Participants were given adequate information, and in return informed consent was obtained from them. Participation was voluntary and participants were free to withdraw at any time. To ensure confidentiality, participants were identified by codes rather than names. Findings provided information on the factors that aided or hindered men's participation in the choice of FP methods. This information is intended to contribute in improving male participation in FP programs, with particular focus on the use of contraceptive methods. No invasive procedures were used, except that some of the questions asked were considered by respondents to be too indiscrete. However, they had the option not to respond to questions that they deemed too personal.

RESULTS

Of the 340 questionnaires distributed in the four health areas of the Buea Health District, only 292(85.9%) were returned, and in the following proportions: Muea health area, 76 out of 102(74.5%); Buea town health area, 72 out of 85(84.7%); Buea road health area, 80 out of 85(94.1%); and Bokwango health area, 64 out of 68(94.1%).

Socio-Demographic Characteristics of Participants

Table 1: A total of 292 persons participated in this study. Male participants were older than their partners, with mean ages of 35.3 and 29.6 years respectively. The level of education was fairly equally distributed among the men and their partners, with the highest levels being secondary education (43.8% for men and

44.9% for their partners). Illiteracy was very low, 3.08% for men and 7.53% for their partners. As many as 43.2% of the men were self-employed and 41.6% of their partners were unemployed. Many of the men were monogamously married (45.9%) while 6.2% of them were married in a polygamous union. A high proportion of the participants, 89.7%, were Christians.

Reproductive Characteristics of Respondents

Table 2: The median birth spacing between their partners' last two childbirths was 3.5 months (interquartile range: 0 to 72 months). The mean of current living children was 2.6 children (range 0 to 16 children). The number of children desired by the participants ranged from 0 to 22 children, with a mean of 4.9 children.

Characteristic	Level	Frequency (n)	% or Mean (SD)	Median	Range or IQR
Age of man (years)		292	35.3(11.5)	32	21-70
Age of partner (years)		292	29.6(9.88)	26	16-60
Education of man	None	9	3.1		
	Primary	49	16.8		
	Secondary	128	43.8		
	Tertiary	106	36.3		
	Total	292	100		
Education of partner	None	22	7.5		
	Primary	57	19.5		
	Secondary	131	44.9		
	Tertiary	82	28.1		
	Total	292	100		
Employment status of man	Unemployed	70	24.0		
	Employed	96	32.9		
	Self employed	126	43.1		
	Total	292	100		
Employment status of partner	Unemployed	121	41.6		
	Employed	54	18.6		
	Self employed	116	39.9		
	Total	292	100		
Marital status	Single with partner	107	36.6		
	Married monogamous	134	45.9		
	Married polygamous	18	6.2		
	Living with partner	33	11.3		
	Total	292	100		
Religion	None	19	6.5		
	Christian	261	89.7		
	Islam	11	3.8		
	Total	292	100		

Table 1: Socio-demographic characteristics in 292 men involved in the choice of family planning methods in the Buea Health District.

Characteristic	Frequency (n)	% or Mean (SD)	Median	Range or IQR
Birth spacing (months)	292	15.5(19.2)	3.5	0-72
Current living children	292	2.6(2.9)	2	0-16
Desired number of child(ren)	292	4.9(2.8)	4	0-22

Table 2: Reproductive health characteristics of 292 men in the Buea Health District.

Factors Associated with Male Involvement in the Choice of Family Planning Methods

Table 3: Men with adequate FP knowledge were 3.06 times more likely to take greater interest in male involvement in the choice of FP methods (OR: 3.06; 95% CI: 1.87-5.0). Also, male participants aged 35 or less (OR: 2.7; 95% CI: 1.7-4.4), men in monogamous or polygamous unions (OR: 0.45; 95% CI: 0.27-0.74) and whose partners were aged 30 or more (OR: 0.48; 95% CI: 0.30-0.79) were also more likely to take greater interest in the choice of FP methods. Men who had attained secondary or tertiary levels of education (OR: 5.94; 95% CI: 3.07-11.5), and whose partners had attained similar levels (OR: 6.01; 95% CI: 3.38-10.7) were also more likely to show greater involvement in the choice of FP methods. Finally, participants who desired to have more than five children (OR: 0.30; 95% CI: 0.18-0.52) or already had more than five children (OR: 0.16; 95% CI: 0.08-0.33) were also more likely to demonstrate higher levels of involvement.

After adjusting for the other factors, it was found that men's involvement in the choice of FP methods was determined largely by their age, FP knowledge, educational level, their partner's educational level, and the birth spacing between their partner's last two births.

After controlling for other factors, it was realized that men with higher FP knowledge were 2.62 times more likely to be involved in the choice of family planning methods (OR 2.62; 95% CI: 1.50-4.6, $P=0.001$).

After adjusting for confounders, men with secondary or tertiary levels of education had 2.5 times higher levels of involvement in the choice of FP methods than those who were uneducated or with primary levels of education (OR 2.5; 95% CI: 1.10-5.5, $P=0.03$).

After controlling for other factors (OR: 2.4; 95 % CI: 1.12-5.02, $p=0.024$), it was found that men whose partners had at least secondary or tertiary level of education were 2.4 times more likely to have higher levels of involvement in the choice of FP methods than those whose partners had no, or only, primary education. Equally, the odds against men demonstrating higher levels of involvement in the choice of FP methods increased 2.9 times for every year's increase in men's age (OR 2.9; 95% CI: 0.12-0.96, $p=0.042$).

In conclusion, after controlling for other factors, the

odds against men demonstrating greater involvement in the choice of FP was 3.14 times higher for every month's increase in the interval between their partner's last two deliveries (OR: 3.14; 95% CI: 1.5-6.7, $P=0.003$).

Barriers to Male Involvement in the Choice of Family Planning Methods

The identified barriers to male involvement were gathered into three sub-groups: 1) individual, 2) healthcare provider, and 3) health facility related barriers.

Table 4: More than half (59.9%) of the participants did not provide any reasons which hindered them from involvement in the choice of FP methods while 40.1% provided reasons for their low involvement. 9.3% evoked financial constraints in the purchase of contraceptives as a barrier while 1.4% reported the unfriendliness of healthcare providers.

DISCUSSION

Involving men in FP is another way of obtaining their commitment to the improvement of its methods. This study provides information on the factors that aid or hinder men's participation in FP. For men to be more involved in FP and other reproductive health services, they require adequate information. Some participants felt they did not have adequate information on FP services. Even so, their overall involvement was good and would have been better still if they had been better informed.

Factors Associated with Male Involvement

Among the study population in the Buea Health District, age was a significant factor in men's involvement in the choice of FP methods. More than half (66.7%) of the men aged 35 years or younger demonstrated higher levels of involvement in the choice of FP methods, meaning that younger men were more likely to participate in FP. This result differs from those of other studies which report higher levels of involvement in men aged 35 years and older.^{5,10-13} Currently, many more young men are educated; as such they have access to information from sources like the internet, radio, TV, and even from their partners. Men aged 35 and less were more represented in this study than those aged 36 and more. Besides, younger men were more willing to participate in the study. This picture explains the FP bias in favor of younger participants.

We also found, as have others,^{5,14} that men with ade-

Characteristics	N	Male involvement							
		%	Unadjusted OR	95% CI	p-value	aOR	95% CI	p-value	
Knowledge									
Inadequate	161	45.3	1.00	-	-	1.00	-	-	
Adequate	131	71.8	3.06	1.87, 5.00	<0.001	2.62	1.50, 4.58	0.001	
Marital status									
Single with partner	107	69.2	1.00	-	-				
Married monogamous/ married polygamous/ living with partner	185	50.3	0.45	0.27, 0.74	0.002	0.54	0.25, 1.16	0.113	
Education of men									
None/ primary	58	24.1	1.00	-	-	1.00	-	-	
Secondary/tertiary	234	65.4	5.94	3.07, 11.5	<0.001	2.45	1.10, 5.48	0.029	
Education of partners									
None/ primary	79	26.6	1.00	-	-	1.00	-	-	
Secondary/tertiary	213	68.5	6.01	3.38, 10.7	<0.001	2.37	1.12, 5.02	0.024	
Employment status of men									
None	70	64.3	1.00	-	-	1.00	-	-	
Employed/self employed	222	55.0	0.68	0.39, 1.18	0.170	1.09	0.54, 2.20	0.185	
Employment status of partners									
None	121	60.3	1.00	-	-	1.00	-	-	
Employed/self employed	170	54.7	0.79	0.49, 1.27	0.340	0.89	0.48, 1.65	0.712	
Age of men(years)									
36 years and more	115	42.6	1.00	-	-	1.00	-	-	
35 years and less	177	66.7	2.69	1.66, 4.37	<0.001	2.88	1.04, 8.03	0.042	
Age of partners(years)									
30or less	191	63.4	1.00	-	-	1.00	-	-	
More than 30	101	45.5	0.48	0.30, 0.79	0.004	1.87	0.67, 5.25	0.231	
Current living children									
5 or less	243	64.2	1.00	-	-	1.00	-	-	
More than 5	49	22.5	0.16	0.08, 0.33	<0.001	0.45	0.14, 1.40	0.167	
Desired number of children									
5 or less	212	65.1	1.00	-	-	1.00	-	-	
More than 5	80	36.3	0.30	0.18, 0.52	<0.001	0.78	0.33, 1.83	0.564	
Birth spacing (months)									
12 or less	170	55.3	1.00	-	-	1.00	-	-	
More than 12	122	59.8	1.20	0.43, 0.75	0.439	3.14	1.48, 6.68	0.003	

Table 3: Association of knowledge, socio-demographic and reproductive characteristics with male involvement in the choice of FP methods in 292 men in the Buea Health District.

quate knowledge about the FP scheme were more likely to be involved in the choice of its methods. When men have proper knowledge of FP methods, they are more willing to participate in choosing a suitable method for use with their partners. Men learn through their involvement; for example, when they accompany their partners to a FP clinic, they gain knowledge of the risks of closely-spaced births (12 months and less) on the mother and child, especially during childbirth. Men with adequate knowledge of FP are more likely to use contraceptive methods and to encourage their partners to do likewise, thereby combating maternal mortality.

The educational level of men also plays a significant

role in their involvement in FP. This study revealed that men who had secondary or tertiary level of education were more likely to be more involved in FP than men who were uneducated or had only the primary level of education. This result compares with those of other studies conducted in Nigeria, Bangladesh, Papua New Guinea and Nepal where men who were uneducated or had primary level of education were likely to have a more conservative perception towards FP.^{3,5,15-18} Educated men are more likely to have good knowledge of FP which can enable them to make informed decisions on the benefits and risks of FP methods. Uneducated men, on the other hand, often have misconceptions about FP methods, especially with regards to side effects. These misconceptions are usually the cause of low male involvement

Barriers	Frequency (N)	Percentage (%)
Individual barriers		
Infertility or conception difficulty of partners	21	7.2
Inadequate information on FP methods	24	8.2
Ignorance	7	2.4
Time constraint	7	2.4
Tradition and custom	19	6.5
Financial constraint	27	9.3
Not yet attain desired family size	10	3.4
Weight gain of their partners	17	5.8
Having sex with no pleasure when using the male condom	6	2.1
Health care provider barrier		
Unskilled health care providers	17	5.82
Health care provider not user friendly	4	1.37
Health facility barrier		
Health facility not accessible	20	6.85

Table 4: Barriers to male involvement in the choice of Family Planning (FP) methods.

in FP services. Providing adequate information to men who have no, or only, primary education can change their views of FP and so boost their involvement. This proposition was not verified by a study conducted in Nepal which instead reported that men with no formal education or with only primary level of education had greater involvement in reproductive and sexual health services.¹³ Whilst focus is on women's education (and rightly so) in improving health outcomes, men's educational level is equally important as it enables them to access information relevant to health.

Women's level of education was also seen to be a strong factor in their husband's or partner's involvement in FP. Our findings suggest that women who are educated facilitate their partner's involvement in their health issues and in those of their children. Other studies also found an association between women's educational level and male involvement in FP and other related issues.^{5,14,18}

Birth spacing was also discovered to be significantly associated with male involvement in FP. Men whose partner's interval between the last two deliveries was 13 months and more demonstrated higher levels of involvement in FP. However, the studies reviewed did not report this association; rather, they reported the current number of living children and the desire for more than five children to be associated with men's participation in FP.^{3,7,11,15,18,19}

While men's marital status, their partner's age, the current number of living children and the desire for 5 children and more determined their level of involvement in the bivariate analysis, these same factors were not determining when the other

factors were taken into account in the multivariate analysis.

Barriers to Male Involvement in Family Planning

The barriers to male participation vary across countries because of differences in customs and traditions. The identified barriers to male involvement were financial constraints (9.3%) and inadequate information on FP methods (8.2%). This picture is similar to findings in Nigeria, Ghana, Democratic Republic of Congo (DRC) and Ethiopia.^{3,4,20,21} Some modern female FP methods are expensive and therefore tend to dissuade men from being involved. Also, since some men are ignorant or do not have adequate information about FP, their involvement is affected to the same extent. Some participants reported that they are not involved in FP because their customs and tradition do not permit them to be. They claim that FP in their culture is a woman's activity and so they do not see any reasons why they should be involved. Besides, their preference for large family sizes makes it difficult for them to support any methods that challenge such interests. Studies in other countries have shown participants reporting that large family sizes are intrinsic to their culture and that their only obligation to women concerning FP is the provision of money.^{3,4,6,8,22} Other participants reported that when their partners use FP methods they later have side effects like difficulties to conceive, and unwanted weight gain; and that when they use condoms they do not derive sexual satisfaction. These findings have also been reported in studies conducted in Uganda and Kenya.^{6,23} Some participants reported that they do not have time to accompany their partners to the FP clinic or to discuss FP with them because they are busy looking for money to take care of the family. These findings are similar to those in studies carried out in Uganda.⁶

Among some of the barriers caused by healthcare providers and health facilities were the unfriendliness of health care providers, their poor skill, and in some areas difficulty in accessing healthcare facilities. These findings are corroborated by other studies.^{4,21,22,24}

Study Limitations

This study was done in four health areas in the Buea Health District in the South West Region of Cameroon. The BHD is only one in 18 Districts in the Region. There may therefore be need to conduct a larger survey, for example in all the Health Districts in the South West Region, and in other parts of Cameroon. Also, the sample may not be representative enough of the population of men in the South West Region and in Cameroon as a whole. There is also the problem of recall bias as many of the participants could not give the correct intervals between their partner's last two childbirths. Furthermore, since this study is a cross-sectional study, it may also limit the ability to establish relationships between the predictors (age of man, education level of man, employment status of man, age of partner, education level of partner and employment status of partner, current living children, desired number of children, birth spacing and knowledge) and men who were highly involved in the choice of FP methods. These limitations should be considered when interpreting the results.

There are a number of strengths to this study. The Buea health district is made up of urban and rural communities. Focus on men from both communities in this study provides valuable insights into their involvement in FP, their knowledge on FP methods, and its determinants. These insights will help inform the policies and programs targeting increased male involvement in FP programs. Qualitative data on barriers to male involvement added insights into factors which hinder male participation in FP. This data will provide information on how to overcome barriers to increased male involvement.

Conclusion

Men may not benefit directly from safe motherhood services, but their partners need their understanding and support to have access to basic reproductive health services. Men's involvement, therefore, remains a major determinant in all FP initiatives. The level of male involvement in this study was high, and was driven, among other factors, by age, level of education, level of FP knowledge, partner's level of education, and birth spacing between their partner's last two deliveries. Some of the obstacles to male involvement were financial constraints, conception difficulties, inadequate information on FP, desire for large family sizes, tradition, side effects of female methods (unwanted weight gain for example) and unskilled and/or unfriendly health care providers. Men and women have equal responsibility in their reproductive health condition and should make joint decisions in FP methods.

Recommendations

Male involvement in sexual and reproductive health services, especially in FP, is crucial in boosting FP methods among men and their partners. FP programs should, therefore, be designed to strengthen and incorporate the responsibility and role of men in the practice of FP services. Furthermore, community health education sessions should be organized to provide communities with adequate information on FP services.

We also recommend that the FP services be made more male friendly to address men's sexual and reproductive health needs.

COMPETING INTERESTS

The authors declare that they have no competing interests.

ACKNOWLEDGEMENTS

The authors would like to thank the nurses of the health facilities for the assistance they gave to them throughout the study.

REFERENCES

1. Darroch JE, Singh S. Trends in contraceptive need and use in developing countries in 2003, 2008, and 2012: an analysis of national surveys. *The Lancet*. 2013; 381: 1756-1762. doi: [10.1016/S0140-6736\(13\)60597-8](https://doi.org/10.1016/S0140-6736(13)60597-8)
2. Kelodjouea S. Trends and determinants of unmet need for family planning in Cameroon: the role of socio-cultural context. *Sociology*. 2015; 5: 39-52. doi: [10.17265/2159-5526/2015.01.005](https://doi.org/10.17265/2159-5526/2015.01.005)
3. Kassa M, Abajobir AA, Gedefaw M. Level of male involvement and associated factors in family planning services utilization among married men in Debreworkos town, Northwest Ethiopia. *BMC Int Health Hum Rights*. 2014; 14. doi: [10.1186/s12914-014-0033-8](https://doi.org/10.1186/s12914-014-0033-8)
4. Adelekan A, Omoregie P, Edoni E. Male involvement in family planning: challenges and way forward. *Int J Popul Res*. 2014; 2014: 1-9. doi: [10.1155/2014/416457](https://doi.org/10.1155/2014/416457)
5. Kamal MM, Islam MS, Alam MS, Hasssn ABME. Determinants of male involvement in family planning and reproductive health in Bangladesh. *Am J Hum Ecol*. 2013; 2.
6. Kabagenyi A, Jennings L, Reid A, Nalwadda G, Ntozi J, Atuyambe L. Barriers to male involvement in contraceptive uptake and reproductive health services: a qualitative study of men and women's perceptions in two rural districts in Uganda. *Reprod Health*. 2014; 11: 21. doi: [10.1186/1742-4755-11-21](https://doi.org/10.1186/1742-4755-11-21)
7. Dahal GP, Padmadas SS, Hinde PRA. Fertility-Limiting be-

- havior and contraceptive choice among men in Nepal. *Int Fam Plan Perspect.* 2008; 34: 6-14. doi: [10.1363/iffp.34.006.08](https://doi.org/10.1363/iffp.34.006.08)
8. Nkuoh GN, Meyer DJ, Tih PM, Nkfusai J. Barriers to men's participation in antenatal and prevention of mother-to-child hiv transmission care in Cameroon, Africa. *J Midwifery Womens Health.* 2010; 55: 363-369. doi: [10.1016/j.jmwh.2010.02.009](https://doi.org/10.1016/j.jmwh.2010.02.009)
9. Landau S, Stahl D. Sample size and power calculations for medical studies by simulation when closed form expressions are not available. *Stat Methods Med Res.* 2013; 22: 324-345. doi: [10.1177/0962280212439578](https://doi.org/10.1177/0962280212439578)
10. Saurina C, Vall-Ilosera L, Saez M, et al. Factors determining family planning in Catalonia. Sources of inequity. *Int J Equity Health.* 2012; 11: 35. doi: [10.1186/1475-9276-11-35](https://doi.org/10.1186/1475-9276-11-35)
11. Roberts E, Metcalfe A, Jack M, Tough SC. Factors that influence the childbearing intentions of Canadian men. *Hum Reprod.* 2011; 26: 1202-1208.
12. Kisa S, Zeyneloğlu S, Delibaş L. Influence of age on the usage of family planning methods by Turkish married men living in southeastern Turkey. *Turk J Med Sci.* 2013; 43: 756-763. doi: [10.3906/sag-1209-73](https://doi.org/10.3906/sag-1209-73)
13. Bhatta DN. Involvement of males in antenatal care, birth preparedness, exclusive breast feeding and immunizations for children in Kathmandu, Nepal. *BMC Pregnancy Childbirth.* 2013; 13: 14. doi: [10.1186/1471-2393-13-14](https://doi.org/10.1186/1471-2393-13-14)
14. Frances A, Myo Myo M, Kyu Kyu T, et al. Correlates of male involvement in maternal and newborn health: a cross-sectional study of men in a peri-urban region of Myanmar. *BMC Pregnancy Childbirth.* 2015; 15. doi: [10.1186/s12884-015-0561-9](https://doi.org/10.1186/s12884-015-0561-9)
15. Shahjahan M, Mumu SJ, Afroz A, Chowdhury HA, Kabir R, Ahmed K. Determinants of male participation in reproductive healthcare services: a cross-sectional study. *Reprod Health.* 2013; 10: 27. doi: [10.1186/1742-4755-10-27](https://doi.org/10.1186/1742-4755-10-27)
16. Kura S, Vince J, Crouch-Chivers P. Male involvement in sexual and reproductive health in the Mendi district, Southern Highlands province of Papua New Guinea: a descriptive study. *Reprod Health.* 2013; 10: 46. doi: [10.1186/1742-4755-10-46](https://doi.org/10.1186/1742-4755-10-46)
17. Aransiola JO, Akinyemi AI, Fatusi AO. Women's perceptions and reflections of male partners and couple dynamics in family planning adoption in selected urban slums in Nigeria: a qualitative exploration. *BMC Public Health.* 2014; 14: 869. doi: [10.1186/1471-2458-14-869](https://doi.org/10.1186/1471-2458-14-869)
18. Islam MS. Determinants of contraceptive method choice in Bangladesh: male perspectives. *South East Asia J Public Health.* 2014; 3: 50-56. doi: [10.3329/seajph.v3i1.17711](https://doi.org/10.3329/seajph.v3i1.17711)
19. Irani L, Speizer IS, Fotso J-C. Relationship characteristics and contraceptive use among couples in urban Kenya. *Int Perspect Sex Reprod Health.* 2014; 40: 11-20. doi: [10.1363/4001114](https://doi.org/10.1363/4001114)
20. Adongo PB, Tapsoba P, Phillips JF, et al. The role of community-based health planning and services strategy in involving males in the provision of family planning services: a qualitative study in Southern Ghana. *Reprod Health.* 2013; 10: 36. doi: [10.1186/1742-4755-10-36](https://doi.org/10.1186/1742-4755-10-36)
21. Ditekemena J, Koole O, Engmann C, et al. Determinants of male involvement in maternal and child health services in sub-Saharan Africa: a review. *Reprod Health.* 2012; 9: 32. doi: [10.1186/1742-4755-9-32](https://doi.org/10.1186/1742-4755-9-32)
22. Morfaw F, Mbuagbaw L, Thabane L, et al. Male involvement in prevention programs of mother to child transmission of HIV: a systematic review to identify barriers and facilitators. *BioMed Cent.* 2013; 2: 5. doi: [10.1186/2046-4053-2-5](https://doi.org/10.1186/2046-4053-2-5)
23. Ochako R, Mbondo M, Aloo S, et al. Barriers to modern contraceptive methods uptake among young women in Kenya: a qualitative study. *BMC Public Health.* 2015; 15. doi: [10.1186/s12889-015-1483-1](https://doi.org/10.1186/s12889-015-1483-1)
24. Hossain KJ. Male involvement in family planning in Bangladesh: factors constraining low use and the potential for augmenting the CPR. *UN Popul Fund.* 2003.