The Use of Birth Control Methods by Adult Males: A Case Study of the Amasaman, Accra, Ghana

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Research

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Abstract

Introduction: Adult males are largely responsible for the production of babies. One healthy male can produce as many as 100 children over a 50-year reproductive lifespan through sex with many women. On the other hand, women are restricted to the production of a limited number of children in their reproductive lifespan due to biological factors related to pregnancy and menopause. Given the propensity of men to produce many children, effective family planning and birth control rests substantially on responsible role of men. Yet, there is little information on use of birth control methods and products by adult males in Ghana. Guided by the reproductive health life cycle theory of human behaviour, this study aimed at analysing the use of birth control methods and products by adult males in Ghana using a case-study of the Amasaman Area Council, in Accra, the capital city of Ghana.

Methods: A scientific survey based on a random sampling procedure collected information from 300 adult males in all 39 communities of the Amasaman Area Council, Accra over two months from November to December 2019. This survey elicited information on the perceptions and use of birth control methods and acceptance of government reproductive health (RH) policies. The collected data were analysed using the Statistical Package for Social Sciences (SPSS) Version 20. The analysis involved simple descriptive summaries of the socio-economic characteristics of the respondents and their perceptions and use of birth control method. A binary logit regression analysis was used to identify the factors that influenced current use of birth control methods by respondents.

Results: The nine birth control methods and products indicated by the male respondents were in order of importance as follows: (1) traditional method of planned abstinence from the spouse for a period of time especially after the delivery of a child, (2) male condom, (3) withdrawal before ejaculation, (4) vasectomy (male sterilization), 5) rhythm or calendar method (of the woman's monthly reproductive cycle), (6) traditional herbs, (7) outercourse (sex without penetration), (8) drinking of local gin before sex, and (9) men taking drugs to prevent pregnancy. Information from peers and friends was the major source of information. Based on the analysis, it was revealed that the likelihood of using birth control methods and products was significantly influenced by the extent of awareness of these methods and products.

Conclusions: Adult male respondents largely had no external sources of information with regards to the majority of the identified birth control methods. Peers and friends were the major source of information about birth control methods. Current use of birth control methods was mainly influenced by the overall awareness of these products.

Plain English Summary

Adult males are largely responsible for the production of babies. One healthy male can produce as many as 100 children over a 50-year reproductive lifespan through sex with many women. On the other hand, women are restricted to the production of a limited number of children in their reproductive lifespan due to biological factors related to pregnancy and menopause. Given the propensity of men to produce many

children, effective family planning and birth control rests substantially on responsible role of men. Yet, there is little information on use of birth control methods and products by adult males in Ghana. A survey of 300 adult males in all 39 communities of the Amasaman Area Council, Accra was undertaken over a period of two months from November to December 2019. It was established that men used birth control methods. The nine birth control methods and products used by the respondents, in order of importance were as follows: (1) traditional method of planned abstinence from the spouse for a period of time especially after the delivery of a child, (2) male condom, (3) withdrawal before ejaculation, (4) vasectomy (male sterilization), 5) rhythm or calendar method (of the woman's monthly reproductive cycle), (6) traditional herbs, (7) outercourse (sex without penetration), (8) drinking of local gin before sex, and (9) men taking drugs to prevent pregnancy. Information from peers and friends was the major source of information. Based on the analysis, it was revealed that the likelihood of using birth control methods and products was significantly influenced by the extent of awareness of these methods and products. Adult male respondents largely had no external sources of information with regards to the majority of the identified birth control methods. Peers and friends were the major source of information about birth control methods. Current use of birth control methods was mainly influenced by the overall awareness of these products. The need to increase awareness of birth control methods and products to adult men was a major conclusion of this study.

Background

Ghana is a lower-middle income country with an estimated population of thirty one (31) million based on projections from the 2010 Population and Housing Census [1, 2]. The population is currently growing at the rate of 2.5% annually much higher than the suggested 1.5% annual growth envisaged for optimally sustainable development. The greater than recommended annual population growth rate in Ghana imposes negative socio-economic outcomes on the country including very poor sanitation and frequent occurrence of many acute diseases which reduce the health vitality of much of the population. Given that the current size of population doubles every 28 years [1], there is a need for policy makers to formulate appropriate and effective reproductive health policies based on empirically-based scientific evidence.

Thomas Malthus is one of the earliest political economists to argue that population growth has the tendency to outstrip food production and supply based on his views clearly articulated in his book published in 1798 [3]. He indicated that even though food production could be increased using increasing levels of land and other inputs, eventually an uncontrolled population would outstrip the food production of a nation leading to widespread starvation, riots, nutritionally-related diseases and economic and social collapse. The essential lesson from the arguments of Malthus was that population growth rate needed to be controlled to match available resources and the technological capacity to produce food and other essential needs of humans. This lesson has clear implication for the formulation of appropriate reproductive health (RH) policies and related birth control methods that can help to align population to food production and supply and achieve sustainable socio-economic development.

Despite the rising access to utilization of modern contraceptives methods as well as maternity services, the rate of decline of maternal mortality has been low; the main challenges being poor reproductive health services infrastructure, inadequate human resource and weak health referral systems. The persistence of rigid cultural, religious and social practices also negatively affects appropriate health seeking behavior that promotes safe livelihood and wealth. Hence, the need for effective RH decisions to develop policies that counteract these negative consequences.

Furthermore, the role of men in the acceptance of RH policies and the use of birth control methods has received scant attention in the empirical literature. There is scant attention in the literature on the role of men even though sexual relationship between men and women is the source of pregnancies. While women have a clear biological carrying capacity in producing children, men can produce a very large number of children based on having sex with as many women as they can find for sexual relationships. Research scholars overlook the important and decisive role of men in the adoption of RH policies and the use of birth control methods and focus often exclusively on the use birth control methods as the primary route of as the means of achieving of RH policies [4]. The important role and contribution of men in the formulation and implementation of RH policies are missing from the literature, contributing to an important gap in knowledge that needs to be addressed, as is being undertaken in this study.

Men were not the focus on RH discussions in the reviewed literature. Several scholars have described this trend as worrying as males are usually ascribed the responsibilities of ensuring that FP and RH concerns are addressed in the family [5, 6]. In addition, national population advisory councils in many countries prioritize women in FP and RH policy formulation. The preference for male children in the developing countries is a factor that discourages couples who are trying to have male children avoid using contraceptives [7].

In developing framework for a new reproductive health paradigm, researchers have drawn attention to the absence of men from previous reproductive health initiatives and the need to incorporate men into emerging programs [8]. Therefore, men are important actors who influence both positively and negatively, both directly and indirectly, the reproductive health outcomes of women and children.

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The ongoing challenge to RH framework is how to characterize men's possible influences and areas of impact on women's health. The 1994 International Conference on Population Development (ICPD) program of Action explicitly calls for the inclusion of men in women's reproductive health through three awareness areas. These are (1) the promotion of men's use of contraceptives through increased education and distribution, (2) the involvement of men in roles supportive of women's sexual and

reproductive decisions, especially contraception and (3) the encouragement of men's responsible sexual and reproductive practices to prevent and control sexually-transmitted infections.

The frequent equalization of gender with women without the inclusion of men fundamentally fails to analyze and comprehend the considerable interactions of important political economy variables such as ethnicity, race, and connections to political power structures on both income-based and non-income-based measures of human well-being. Therefore policies dealing with reproductive health in the Western (European) context are often not appropriate to the settings and circumstances of indigenous African societies because of they lack relevant application to much of the population who have been brought up in societies that have different cultural values from those in Western societies.

The main objective of this study was to establish the types of birth control methods used by adult males and assess the extent of use of birth control methods and the factors influencing the use of birth control methods by adult males in the Amasaman Area Council of Accra, the capital city of Ghana. The rest of this paper is organized as follows: the next section discusses the methods and procedures used for the study. The results and their discussion and the conclusions follow.

Methods

A study population is all individual or groups of individuals of interest based on the objectives of the study. Given that the study was a case study dealing principally with the Amasaman Area Council, the population of interest for the quantitative-based survey was all adult females and adult males aged 18 and above normally resident in the Amasaman Area Council. The survey of adult males was also conducted in the Amasaman Area Council over a period of two months from November to December 2019.

The survey utilized random sampling procedures using private personal and confidential interviews with adult men living in randomly-chosen houses. This assumed that each residential house contained at least one adult male. The optimal sample size of 292 was established based on statistical theory using the concepts of binomial and normal probability distribution using information suggested by several scholars [9, 10, 11]. Given the possibility of some adult men refusing to participate in the survey, an oversampling of eight male respondents was done bringing to the total number of sampled males to 300.

Based on the pilot survey, it was assumed that about 95% (p) of the adult males were aware of at least one major birth control method used predominantly by males. Hence those who were not aware of a major birth control method used by males (q) was 5%. Allowing for 2.5% maximum standard error (MSE) to be achieved with 95 percent confidence level (that is 1.96 standard errors from a normal distribution), the optimal sample size (n) was derived as follows:

$MSE = 0.025 = s * 1.96$ $s = [(p * q)/n]^{0.5}$ $s = 0.025/1.96 = 0.012755 = [(0.95*0.05)/n]^{0.5}$

$(0.012755)^2 = (0.0475/n)$; $6146.56 = n/0.0475$; $n = 6146.56*0.0475 = 291.97$ or 292.

For the purpose of the survey, the Amasaman Area Council was divided into three strata made up of four urban communities, ten semi-rural communities, and 25 rural communities (refer to Tables 1, 2 and 3). All the 39 communities in the three strata were involved in the survey of adult males. This survey was based on the number of randomly-selected houses derived using on the number of houses in each community as a proportion of the total number of houses in the entire Amasaman Area Council, and the maximum sample size of 300. The number of houses are based on information from the 2010 Population and Housing Census report for the Amasaman Municipality [12] which was updated by officers of the Municipality in 2019.

Table 1: Selection of the number of houses from which adult male interviews were conducted for the urban areas of the Amasaman Area Council.

Number	Name of Community	Number of People based on the 2010 Census Updated by the Amasaman Municipal Council	Number of houses	**Number of houses selected for the interviews**
1	Amasaman	6,280	816	**46**
2	Omandjor	3,528	458	**26**
3	Pobiman	3,257	423	**24**
4	Sarpeiman	4,441	577	**32**
5	Total	17,506	2,274	**128**

Table 2: Selection of the number of houses from which adult male interviews were conducted for the semi-rural or peri-urban areas of the Amasaman Area Council.

Number	Name of Community	Number of People based on the 2010 Census Updated by the Amasaman Municipal Council	Number of houses	**Number of houses selected for the interviews**
1	Abehenease	1,625	211	**12**
2	Amanfrom	1,260	164	**9**
3	Amasaman Zongo	2,122	276	**15**
4	Fise	898	117	**7**
5	Havorkope	1,061	138	**8**
6	Kpobikope	1,731	225	**13**
7	Kutunse	1,010	131	**7**
8	Opa	2,742	356	**20**
9	Shikpontele	1,889	245	**14**
10	Trebakope	1,362	177	**10**
	Total	15,700	2,039	**114**

Table 3: Selection of the number of houses from which adult male interviews were conducted for the rural areas of the Amasaman Area Council.

Number	Name of Community	Number of People based on the 2010 Census Updated by the Amasaman Municipal Council	Number of houses	**Number of houses selected for the interviews**
1	Ablorman	152	20	**1**
2	Aborkope/Babanabo	420	55	**3**
3	Agbom	402	52	**3**
4	Anyway	317	41	**2**
5	Atoman	341	44	**2**
6	Avornyokope	104	14	**1**
7	Ayigbetown	500	65	**4**
8	Dodookope	210	27	**2**
9	Donyuikope	122	16	**1**
10	Ekporkope	604	78	**4**
11	Gatsikope	260	34	**2**
12	Kpikodzi	139	18	**1**
13	Legion Village	121	16	**1**
14	Macedodia	382	50	**3**
15	New Amasaman	283	37	**2**
16	Odumase	635	82	**5**
17	Onyaben	200	26	**1**
18	Opah Alhaji	214	28	**2**
19	Opah-Alafia	406	53	**3**
20	Railway Valley	234	30	**2**
21	Sarpeiman Faase	620	81	**5**
22	Sattelite	572	74	**4**
23	Slaughter House	314	41	**2**
24	Wozuuamekope	214	28	**2**

25	Xedegbui Kope	190	25	**1**
	Total	7,956	1,033	**58**

A binary logit regression analysis [13, 14] was undertaken to determine socio-economic characteristics of the male respondents that significantly influenced the decision to currently use any of the nine identified birth control methods. The model for the study was as follows:

USEBCM = f(AGE, EDUMALE, EDUSPOUSE, EDUMALE*EDUSPOUSE, PINCOME, AWARENESS, AWARENESS*EDUMALE) Equation 1

Where USEBCM was the dependent variable; a dummy variable taking a value of 1 if the male respondent used any one of the nine identified birth control methods during the previous 12 months before the survey and zero otherwise.

AGE was the age of the respondent in years.

EDUMALE is the number of years of formal education acquired by the respondent.

EDUSPOUSE is the number of formal education acquired by the respondent's wife. Women who were cohabiting with respondents were considered as wives for this analysis.

EDUMALE*EDUSPOUSE is an interaction term combining EDUMALE and EDUSPOUSE.

PINCOME is the monthly personal income declared by the respondent.

AWARENESS is the general average level of awareness by the respondent of all the nine identified birth control methods based on an average Likert scale with zero representing no awareness at all and 5 for the maximum possible level of awareness. The average value of the scores for all the nine birth control methods was used for the analysis.

AWARENESS*EDUMALE is an interaction term of AWARENESS and EDUMALE.

The actual model used for the study is listed in Equation 2 below.

$USEBCM = A_0 + A_1\ AGE + A_2\ EDUMALE + A_3\ EDUSPOUSE + A_4\ EDUMALE*EDUSPOUSE + A_5\ PINCOME + A_6\ AWARENESS + A_7\ AWARENESS*EDUMALE + U$ Equation 2

Where A_i (i = 0, 1, 2, 3, 4, 5, 6 and 7) are the parameters and U is the equation error term.

Results

Table 4 provides the summary information on socio-economic characteristics of these 300 respondents based on the use of frequency analysis. All the 300 respondents were within the 20-69 years age group. However, slightly over three-quarters of the respondents (77.7%) were within the 30 to 49 years group. In terms of formal educational attainment, only 4.6% had never been to school. Slightly over half of the respondents (52%) had some junior or secondary school education. Only 1.7% of the respondents had university or tertiary degree qualifications.

The dominant religious affiliation of the respondents was Christianity with slightly over three-quarters (76.8%) of the respondents declaring to be Christians. The next dominant religious affiliation was traditional African religions, either in their sole forms or mixed with Christianity or Islam. This type of mixed religious preferences was practised by about one in seven of the respondents (14.2%). There are nine broad ethnic groups in Ghana. These are Akan, Dangme/Ga, Ewe, Guan, Gurma, Mande, Mole-Dagbani, and All Others Originating from Outside Ghana [16]. In the study area, the biggest broad ethnic group was Ewe, followed by Akan and then by Dangme/Ga groups. The four broad ethnic groups originating from the Northern Regions of Ghana (Grusi, Gurma, Mande and Mole-Dagbani) constituted 12.9% of the respondents.

In terms of employment, artisans were the largest group followed by self-employed people from other categories and then by private sector employees, farmers and government sector employees. About two-thirds of the respondents were married (66.9%). Respondents living in various cohabitation arrangements with partners constituted slightly over one quarter of the sample (26.2%). Every respondent belonged to at least one organization. About one in seven of the respondents (13.9%) had used these products in the 12 months before the start of the survey; this was similar to the proportion who had used these products in the past (14.9%).

Table 4: Characteristics of the male survey respondents based on frequency analysis

Item/ group	Percentage (%)
Age group	
Ø 20-29	18.2
Ø 30-39	54.3
Ø 40-49	25.2
Ø 50-59	2.0
Ø 60-69	0.3
Educational Level	
Ø No schooling	4.6
Ø Primary school	3.6
Ø Junior high school/Middle School	19.9
Ø Some senior high school	13.9
Ø Senior high school graduate	18.2
Ø Post-junior high school technical school	0.0
Ø Technical college/school	19.2
Ø Higher National Diploma Holder	13.2
Ø Diploma	5.6
Ø Bachelor degree holder	1.0
Ø Postgraduate degree holder	0.7
Religious Affiliation	
Ø Christian Protestant	36.4
Ø Christian Roman Catholic	23.8
Ø Christian Charismatic or Pentecostal	14.9
Ø Christian Jehovah Witnesses	0.0
Ø Christian/African traditionalist	7.3
Ø Islam	7.3
Ø Islam/African traditionalist	2.3
Ø Traditional African religions	4.6
Ø Atheist	0.7

Ø Buddhism	0.7
Ø Hare Krishna	0.3
Ethnicity (Broad Ethnic or Language Group)	
Ø Akan	20.5
Ø Dangme/Ga	17.5
Ø Ewe	31.8
Ø Guan	12.6
Ø Gurma	6.0
Ø Mole-Dagbani	3.6
Ø Grusi	2.7
Ø Mande	0.6
Ø All Other groups	2.3
Occupation	
Ø Self- employed/own business	29.1
Ø Private sector employee	20.9
Ø Government sector employee	7.3
Ø Artisans	30.1
Ø Farmers	11.6
Ø Unemployed	1.0
Marital Status	
Ø Currently Married	66.9
Ø Cohabitation	26.2
Ø Divorced	3.3
Ø Widowed	1.3
Ø Single	2.4
Membership of Community Associations, Groups and Organizations	
Ø No association	
Ø Political Parties	0.0
Ø Men Fellowship (Christian)	56.9

Ø Islamic Brotherhood/Political Parties	10.6
Ø Men Fellowship/Political Parties	7.6
	22.2
Current Use of Birth Control Methods (Within the Last 12 Months Before Survey)	
Ø Yes	
Ø No	13.9
	86.1
Past Use of Birth Control Methods (Beyond the Last 12 Months Prior to the Survey)	
Ø Yes	14.9
Ø No	85.1
Current Use of Birth Control Methods *by the Spouse of the Respondent* (Within the Last 12 Months Before Survey)	
Ø Yes	
Ø No	19.2
Ø Respondent Does Not Know	46.7
	34.1

Source: Derived from survey data, November to December 2019.

Table 5 is a summary of the characteristics of the first spouses of the male survey respondents presented using the frequency format. In terms of age group, these first spouses were in the 15 to 49 years group, with the majority (60.9%) being in the 30-39 age group. Only 8.3% of these first spouses never attended school. Slightly over one third (36.1%) of these first spouses had received formal educational training, either at the junior or the senior high school level. While 0.7% of the respondents had first degree qualifications, none of these first spouses had post-graduate qualifications.

In line with the broad ethnic groups of their husbands, the biggest broad ethnic group was Ewe followed by Akan and then Dangme/Ga. The majority of these first spouses were self-employed (53.6%). Artisans, private sector employees and farmers constituted the next three biggest sources of employment. The fifth biggest occupation was housewife or homemaker, accounting for about one in 20 of these first spouses (5.3%) with the proportion slightly higher than first spouses working in the government sector (5.0%). About 2.3% of the first spouses were unemployed.

Table 5: Summary of characteristics of the *first spouses* of the male survey respondents based on frequency analysis

Item/ group	Percentage (%)
Age group	
Ø 15-19	0.3
Ø 20-29	27.8
Ø 30-39	60.9
Ø 40-49	10.9
Ø 50-59	0.0
Ø 60-69	0.0
Educational Level	
Ø No schooling	8.3
Ø Primary school	8.9
Ø Junior high school/Middle School	14.6
Ø Some senior high school	7.3
Ø Senior high school graduate	14.2
Ø Post-junior high school technical school	0.3
Ø Technical college/school	23.5
Ø Higher National Diploma Holder	16.2
Ø Diploma	6.0
Ø Bachelor degree holder	0.7
Ø Postgraduate degree holder	0.0
Religious Affiliation	
Ø Christian Protestant	38.1
Ø Christian Roman Catholic	26.2
Ø Christian Charismatic or Pentecostal	18.5
Ø Christian Spiritual Churches	1.0
Ø Christian Jehovah Witnesses	1.7
Ø Christian/African traditionalist	2.3
Ø Islam	7.0
Ø Islam/African traditionalist	1.7

Ø Traditional African religions	2.6
Ø Atheist	0.0
Ø Buddhism	0.7
Ø Hare Krishna	0.3
Ethnicity (Broad Ethnic or Language Group)	
Ø Akan	22.8
Ø Dangme/Ga	17.6
Ø Ewe	35.1
Ø Guan	10.2
Ø Gurma	3.6
Ø Mole-Dagbani	4.5
Ø Grusi	2.2
Ø Mande	1.3
Ø All Other groups	2.3
Occupation	
Ø Self- employed/own business	53.6
Ø Private sector employee	10.9
Ø Government sector employee	5.0
Ø Artisan	12.6
Ø Farmers	10.3
Ø Housewife/home care	5.3
Ø Unemployed	2.3
Membership of Community Associations, Groups and Organizations	
Ø No association	
Ø Women Fellowship or Other Groups	6.8
	93.2

Source: Derived from survey data, November to December 2019.

Table 6 represents the summary descriptive socio-economic characteristics of the male respondents while Table 7 reports summary descriptive characteristics of the spouses of the male respondents based on averages. The average age of the male respondents was 35.6 years compared to the average age of first spouses of 32.3, a difference of 3.4 years. The age range of the male respondents (22 to 60 years) was also higher than the equivalent age range of the first spouses (19 to 46). In general, the male respondents were on average older than their first spouses. The number of years of formal schooling acquired by the male respondents (11.0 years) was almost identical to those of the first spouse (10.6 years).

Table 6: Summary of characteristics of male survey respondents based on averages.

Item	Mean	Standard Deviation	Range
Age (years)	35.6	6.0	22 to 60
Total personal income of respondents per month, Ghana Cedis (GH₵)	498.8	203.2	0 to 1,450
Number of years of formal schooling or education	11.0	3.3	0 to 18
Number of people in the household	6.0	1.7	2 to 17
Number of living male children	2.1	1.2	0 to 8
Number of dead male children	0.1	0.4	0 to 2
Number of living female children	1.7	0.9	0 to 5
Number of dead female children	0.1	0.3	0 to 2
Total expenditures on birth control methods during the past 12 months	24.0	59.7	0 to 400

Source: Derived from survey data, November to December 2019.

Table 7: Summary of characteristics of the *spouses* of the survey respondents based on averages.

Item	Number	Mean	Standard Deviation	Range
Age of first spouse (years)	300	32.2	5.2	19 to 46
Number of years of formal schooling or education of first spouse	300	10.6	4.1	0 to 16
Age of second spouse (years)	4	34.0	1.6	32 to 36
Number of years of formal schooling or education of second spouse	4	6.8	5.1	0 to 12
Age of third spouse (years)	2	28.5	2.1	27 to 30
Number of years of formal schooling or education of third spouse	2	9.0	0.0	9 to 9

Source: Derived from survey data, November to December 2019.

The assessment of access and the quality of health systems and health services is presented in a summary form in Table 8. In terms of the quality of the health centre or clinic, the sanitary condition of the facility was ranked the poorest by the male respondents, with an average score of 1.705, which put in the low quality range. As reported in Table 8, the ease of access to the clinic or health centre was ranked the highest. This attribute was followed by the time to the clinic or health centre, distance to the clinic or health centre, and the availability of comfortable seating arrangements; all these three attributes were regarded as moderately good to good in terms of the quality. The assessment of the quality of services provided by nurses at the health centre and clinic by the male respondents was generally in the moderate to moderately-good range (refer to Table 8). The assessment of the quality of services provided by pharmacists at the health centre and clinic by the male respondents was similar and close to the average scoring for the nurses; even though the average scores for nurses were slightly higher.

Nine birth control methods were indicated by the respondents (refer to Table 9). These were in order of importance as follows: (1) traditional method of planned abstinence from the spouse for a period of time especially after the delivery of a child, (2) male condom, (3) withdrawal before ejaculation, (4) vasectomy (male sterilization), 5) rhythm or calendar method (of the woman's monthly reproductive cycle), (6) traditional herbs, (7) outercourse (sex without penetration), (8) drinking of local gin before sex, and (9) men taking drugs to prevent pregnancy.

Table 8: Assessment of the quality of health systems and health services				
Item	**Number**	**Average Score**	**Standard Deviation**	**Ranking**
Health Centre or Clinic				
Distance to the Health Centre or Clinic	300	3.768	0.845	3
Time to the Health Centre or Clinic	300	3.884	0.731	2
Ease of Access to the Facility on Arrival	300	4.301	0.587	1
Availability of Comfortable Seating Arrangements	300	3.020	0.896	4
Availability of Toilet and Urinary Facilities	300	1.705	0.712	5
Health Centre (Nurses)				
Knowledge of my health condition	227	3.634	0.766	1
Willingness to help treat my health condition	227	3.546	0.946	2
Provision of information concerning my health condition	227	2.705	0.870	4
Level of friendliness and care from personnel	227	2.661	0.970	5
Overall usefulness of interaction with Nurse(s)	227	3.537	0.827	3
Health Personnel (Pharmacists)				
Knowledge of my health condition	163	2.663	0.678	4
Willingness to help treat my health condition	163	2.798	0.721	2
Provision of information concerning my health condition	163	2.558	0.658	5
Level of friendliness and care from personnel	163	2.712	0.767	3
Overall usefulness of interaction with Pharmacist(s)	161	3.248	0.994	1
Health Personnel (Doctors)				
Knowledge of my health condition	184	4.636	0.483	1
Willingness to help treat my health condition	246	4.550	0.545	3
Provision of information concerning my health condition	246	4.386	0.627	5
Level of friendliness and care from personnel	246	4.463	0.583	4
Overall usefulness of interaction with Doctor	24	4.593	0.720	2

(s)

Notes:

The assessment of the quality of services or access to services that you received at the health centre that you last visited based a Likert scale of 0 to 5 denoting excellent quality, 4 very good quality, 3 moderate quality, 2 low quality, 1 very low quality and zero (0) for no quality at all.

Source: Derived from survey data, November to December 2019.

Table 9: Ranking of the level of awareness of birth control methods by respondents

No.	Method	No.	Average score of importance	Standard deviation of score	Ranking
1	Traditional method - planned abstinence	300	4.470	0.629	1
2	Male condom	300	3.917	1.036	2
3	Withdrawal before ejaculation	300	3.076	1.291	3
4	Vasectomy (male sterilization)	300	1.328	1.016	4
5	Rhythm or calendar method of the woman's monthly reproductive cycle	300	0.940	0.931	5
6	Traditional herbs	300	0.887	1.147	6
7	Outercourse (sex without penetration)	300	0.626	0.817	7
8	Drinking of local gin before sex	300	0.606	0.926	8
9	Men taking drugs to prevent pregnancy	300	0.447	0.688	9

Notes:

The scoring is based on 5 denoting that item is very high level of awareness, 4 represented high level of awareness, 3 indicated moderate level of awareness, 2 represented low level of awareness, 1 represented very low level of awareness and zero (0) represented total lack of awareness of the particular birth control method. The coefficient of variation is the standard deviation divided by the mean score.

Source: Derived from survey data, November to December 2019.

The most important single sources of information for the identified nine birth control methods are provided in Table 10. No source of awareness was ranked as the most important for five birth control methods: rhythm or calendar method (of the woman's monthly reproductive cycle), traditional herbs, outercourse (sex without penetration), drinking of local gin before sex, and men taking drugs to prevent pregnancy. This meant that the respondents relied on their prior knowledge or intuitive assessment for information on these methods. Information from peers and friends was the major source of information for withdrawal before ejaculation and vasectomy. Television was the major source of information for the male condom. This result was also identified from other studies in Ghana [17].

Tables 11 and 12 present the rankings of the intensity of use of birth control methods within the 12 months prior to the survey, and beyond the 12 months (past use), respectively. The male condom was the most commonly used birth control method/product, followed by withdrawal before ejaculation, for the male respondents, for both the current period and past periods. Male condom was reported to be used at a moderate level by the 34 respondents who indicated that they used that product currently and 37 respondents who indicated that they used that product in the past periods. The other eight birth control methods and products were used at very low levels, with just eight to ten respondents reporting that they used those products within the 12 months prior to the survey (current use) and 11 to 14 respondents reporting that they used them in the past (beyond 12 months prior to the survey).

Table 10: The most important source of information for various birth control methods as declared by the respondents

Item	Type of Birth Control Method	Most Important Source of Information	Percent of Respondents
1	Traditional method - planned abstinence	Information obtained from parents, carers and other relatives	52.6
2	Male condom	Advertisement through television	32.5
3	Withdrawal before ejaculation	Information from peers and friends	59.6
4	Vasectomy (male sterilization)	Information from peers and friends	38.7
5	Rhythm or calendar	No source of awareness	35.8
6	Traditional herbs	No source of awareness	52.3
7	Outercourse (sex without penetration)	No source of awareness	53.6
8	Drinking of local gin before sex	No source of awareness	62.3
9	Men taking drugs to prevent pregnancy	No source of awareness	65.9

Source: Derived from survey data, November to December 2019.

Table 11: Ranking of the level of intensity of current use of birth control methods by respondents

Item	Method	No.	Average score of importance	Standard deviation of score	Ranking
1	Traditional method - planned abstinence	10	0.900	1.912	3
2	Male condom	34	2.853	1.019	1
3	Withdrawal before ejaculation	10	1.20	1.619	2
4	Vasectomy (male sterilization)	9	0.56	1.667	4
5	Rhythm or calendar	8	0.00	0.00	7
6	Traditional herbs	10	0.40	0.843	6
7	Outercourse (sex without penetration)	9	0.00	0.00	7
8	Drinking of local gin before sex	8	0.00	0.00	7
9	Men taking drugs to prevent pregnancy	9	0.556	1.667	5

Notes:

The scoring is based on 5 denoting that item is very high level of use, 4 represented high level of use, 3 indicated moderate level of use, 2 represented low level of use, 1 represented very low level of use, and zero (0) represented total lack of use of the particular birth control method. The coefficient of variation is the standard deviation divided by the mean score.

Source: Derived from survey data, November to December 2019.

Table 12: Ranking of the level of intensity of past use of birth control methods by male respondents

No.	Method	No.	Average score of importance	Standard deviation of score	Ranking
1	Traditional method - planned abstinence	12	0.750	1.765	2
2	Male condom	37	2.973	0.897	1
3	Withdrawal before ejaculation	10	0.00	0.00	6
4	Vasectomy (male sterilization)	11	0.45	1.508	5
5	Rhythm or calendar	10	0.00	0.00	6
6	Traditional herbs	14	0.64	1.151	3
7	Outercourse (sex without penetration)	10	0.00	0.00	6
8	Drinking of local gin before sex	10	0.00	0.00	6
9	Men taking drugs to prevent pregnancy	12	0.583	1.505	4

Notes:

The scoring is based on 5 denoting that item is very high level of use, 4 represented high level of use, 3 indicated moderate level of use, 2 represented low level of use, 1 represented very low level of use, and zero (0) represented total lack of use of the particular birth control method. The coefficient of variation is the standard deviation divided by the mean score.

Source: Derived from survey data, November to December 2019.

The reasons given by male respondents for *not currently using* birth control methods based on the percentage of respondents are summarized in Table 13. Table 14 is a summary of the reasons suggested by the male respondents for not using birth control methods and products in the past period (beyond the 12 months at the time of the survey). The first dominant reason for the lack of current use of birth control methods and products by the male respondents was the assertion that these methods and products were meant for women to use and not for men (31.8% of the respondents). The second most important reason given was that the male respondents did not like these methods and products (23.8% of the respondents). The possibility of negative and harmful side effects from the use of these methods and products was cited as the third most important reason for lack of current use (10.3% or about one in ten respondents). High cost or the expensive nature of these methods and products was the sixth most important reason for lack of current use indicated by only 8% of the respondents.

The reasons cited for non-use of birth control methods and products by the male respondents, indicated in Table 13, during the past periods, were similar to those indicated for the lack of current use (refer to Table 14). The two most important reasons, the assertion that the methods and products were for women to use, and the dislike of these methods and products, were the same for both the current period and for the past periods. However, for past periods, the lack of ready availability of birth control methods and products, was declared as the third most important reason with 11.3% or about one in nine respondents indicating this reason(refer to Table 14). This figure was slightly higher than the 9.2% of the respondents who offered this reason for their lack of use of birth control methods and products in the current period.

Table 13: Reasons given by the male respondents for *not currently using* birth control methods and products based on the percentage of respondents

Reason for not using birth control methods	Percentage of respondents declaring this reason	Ranking in terms of importance
Birth control methods are for women to use	31.8	1
Respondent does not like birth control methods	23.8	2
Use of birth control methods can cause serious side effects	10.3	3
Use of control methods is against cultural beliefs	9.2	4
Birth control products are not readily available	9.2	5
Birth control products are very expensive	8.0	6
Use of birth control methods is against religious beliefs	6.5	7
Birth control methods can use male or female infertility	1.1	8

Source: Derived from survey data, November to December 2019.

Table 14: Reasons given by the male respondents for *not using* birth control methods and products *during the past* based on the percentage of respondents

Reason for not using birth control methods	Respondents declaring this reason (%)	Ranking
Birth control methods are for women to use	31.2	1
Respondent does not like birth control methods	23.8	2
Birth control products are not readily available	11.2	3
Birth control products are very expensive	9.6	4
Use of birth control methods is against religious beliefs	8.1	5
Use of birth control methods can cause serious side effects	7.7	6
Use of control methods is against cultural beliefs	6.9	7
Birth control methods can use male or female infertility	1.2	8

Source: Derived from survey data, November to December 2019.

Table 15 reports on the results derived from the binary logit regression analysis of the factors influencing the likelihood of the current use of birth control methods. Five out of the seven independent variables were statistically significant in influencing the likelihood of current use of birth control methods. Both the educational attainment of the male respondent and that of his spouse were statistically significant in increasing the likelihood of use of birth control methods. Awareness of birth control methods was strongly statistically significant in influencing the likelihood of their use. Awareness also acted as a moderating variable in combination with the level of formal educational attainment of the male respondent in influencing the likelihood of current use of birth control methods in a negative fashion. This particular result suggested that at any level of awareness of birth control methods, males with lower levels of formal educational attainment had higher likelihood of using these products.

Table 15: Binary logit regression analysis of the current use of birth control methods versus selected socio-economic characteristics of the male respondents.

Dependent Variable is USEBCM (use of birth control methods during the last 12 months)

Explanatory Variable	Regression Parameter Estimate	Student t Value	Probability Level of Significance
INTERCEPT	-16.638	7.832	0.005***
AGE	-0.013	0.183	0.669
EDUMALE	1.210	5.186	0.023**
EDUSPOUSE	0.572	3.778	0.052*
EDUMALE*EDUSPOUSE	-0.052	3.512	0.061*
PINCOME	-0.001	0.284	0.594
AWARENESS	4.550	7.342	0.007***
AWARENESS*EDUMALE	-0.306	4.331	0.037**

Notes

Number of observations for regression analysis 300

Percentage of observations classified as correct 86.7

*** denotes statistical significance of the parameter at the 1% level

** denotes statistical significance of the parameter at the 5% level

* denotes statistical significance of the parameter at the 10% level

Discussion

The role of men is understated in the literature on RH. The role of women has been the central focus of research works and discussions at RH meetings and conferences. However, given the predominant role men play in causing pregnancies and the essential support that men in spousal arrangements need to make to ensure the welfare of the children and the entire family, it is essential that a higher profile is given to the important role of men in RH policies.

Findings of the selected research works in developing countries indicate the need to involve both male and females in family planning services. In particular, government health reproductive services need to emphasize programmes aimed at reaching married couples and those in co-habitation and consensual agreements on the shared values of joint decisions on the use of family planning methods and services. Further, the quality of health facilities and centres need to be improved with further importance attached to the enhancement of the quality of patient-career interactions at health centres.

This study is part of the relatively small group of research works in the area of men and acceptance RH policies. The disconnect between the awareness of several birth control and their low use, as identified in this study, is confirmed in several Ghanaian studies [18, 19, 20]. The need of policymakers to increase awareness among adult males in Ghana on the availability and correct use of birth control methods and products cannot be overemphasized.

Finally, education of the male in the sexual relationship is a more important factor that that of the woman because men are usually the decision makers within the family unit. [21] A bottom-up approach to develop sustainable male involvement in reproductive, maternal, new born, and child health issues would be useful. [22]

Conclusions

Adult male respondents largely had no external sources of information with regards to the majority of the identified birth control methods. Peers and friends were the major source of information about birth control methods. Current use of birth control methods was mainly influenced by the overall awareness of these products.

Abbreviations

RH: Reproductive Health

SPSS: Statistical Package for Social Sciences

Declarations

Ethical Guidelines

The survey of the 300 male respondents was undertaken based on ethical guidelines provided by the Nobel International Business School, Accra, Ghana. All respondents provided consent to participate in the survey and the ethical guidelines of anonymity, confidentiality and not causing to harm to survey participants were rigorously observed including the reporting of the findings of the study. Nobel International Business School, after reviewing the draft of the paper, has given consent for the publication of the paper.

Consent for Publication

Nobel International Business School has given consent for the publication of this paper. A specific approval letter from the School is available from the author. The paper presents the report of a survey with results compiled in an aggregate form and manner that does not identify any one particular person who agreed to participate in the study.

Availability of Data

Data gathered from the survey are available from the author for verification and validation purposes.

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Authorship

The study was carried out by the author as part of her requirements for the award of a Doctor of Business Administration degree at the Nobel International Business School, Accra, Ghana.

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Competing Interests

The author declares that she has no competing interests.

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