Determinants of Effective Family Planning Communication Among Couples in Harar, Eastern Ethiopia: A Community Based Matched Case-Control Study

Desalew Zelalem (desalewzelalemayele@yahoo.com)
Haramaya University

Alemayehu Worku
Addis Ababa University

Yadeta Dessie
Haramaya University

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Abstract

Introduction

Effective spousal family planning communication is determined by various socio-economic, demographic, family planning knowledge and attitude, and exposure of couples to family planning message on media. Women' equality with men in terms of educational status, relative power of each spouse and women's social and economic vulnerability dictates couples' communication on family planning and other reproductive health issues.

Methods

A community based matched case-control study was conducted in twelve kebeles of Harar Urban Health and Demographic Surveillance System. A total of 1010 cases (married couples) and 1010 controls (married couples) of whose wives were in the reproductive age participated in the study. The selection of the study participants was made using simple random sampling.

Results

In this study, husband's desire for more children (aOR = 0.2; 95%CI: 0.11, 0.41), wives desire for more children (aOR = 0.1; 95%CI: 0.06, 0.34) and fewer children (aOR = 0.4; 95%CI: 0.19, 0.84), couples' approval of family planning use (aOR = 2.3; 95%CI: 0.65, 8.37) and women's family planning counseling by health workers (aOR = 2.1; 95%CI: 1.12, 3.8) were significantly associated with effective spousal family planning communication

Conclusion

In conclusion the results revealed that policies and programs aimed at promoting family planning should strengthen family planning information, education and communication activities to enable couples concord on their desired number of children and develop positive attitude towards family planning.

Introduction

Effective spousal family planning communication is determined by various socio-economic, demographic, family planning knowledge and attitude, and exposure of couples to family planning message on media. Studies have indicated that women's equality with men particularly in terms of educational status, relative power of each spouse and women's social and economic vulnerability dictates couples' communication on family planning and other reproductive health issues [1][2][3]. When couples are better educated and closer in their levels of education, they are more likely to discuss family planning and reproductive health issues frequently and confidently[1][2][4]. The effect of spousal

communication on family planning use may also be mediated by the relative power of each spouse in the decision making power. When a woman shares decision making power, she is better able to bring up and discuss family size, family planning and health matters with her partner[1].

Evidences suggest that women's social and economic vulnerability inhibits their ability to express and argue for their own interest with their partners. When a woman has more economic power and engaged in non-agricultural activities and participated in gainful employment, she is more likely to discuss family planning and reproductive health issues with her husband [1] [4][5].

Behaviors related to couples' communication on reproductive issues including family planning, contraceptive use and fertility are influenced by subjective and normative factors such as values and attitudes [6][2][4]). Studies indicated that couples who know large number of family planning methods and who approve the use of family planning methods are more likely to communicate family planning [2][3][4].

A systematic review by Perkins et al., 2015 reveals that information about contraception and its social acceptability travels through social networks to influence individuals’ decisions [7]. A study in Kenya also indicates that family planning is a prominent topic in social interactions in which more than 75% of women reported having discussed it with at least one network partner [8]. Social networks also facilitate spousal family planning communication by decreasing spouses' fears and giving them adequate background information to introduce the topic to their spouses [9].

There are some studies which assessed spousal family planning communication in the country [10][3][11][5][12]). However, none of these studies assessed which factors determined couples' communication on family planning. Identifying the factors that determine effective spousal family planning communication enables to target the interventions on specific factors that have relevance. Thus, the current study tries to identify the factors that determine spousal family planning communication in the study area and tries to fill the research gap on determinants of spousal family planning communication.

Methods And Materials

Study setting

The study was conducted in Harar Urban Health and Demographic Surveillance System (Harar Urban HDSS) which is located in Harar town, Harari region, Eastern Ethiopia. Harar town is located at a distance of 510 kms from Addis Ababa, the national capital and it is the capital city of the Harari region. The region is boarded with different districts of the Eastern Hararghe zone of Oromiya regional state and divided in to 36 kebeles (19 urban and 17 rural kebeles) [13]. According to the 2013 population projection, the total population of the region for the year 2017 was estimated at 244,711 of which 49.5% were females and 55.7% were urban dwellers [14].

Originally Harar Urban HDSS was established in Harar town to represent the Eastern part of Ethiopia and Harar town was selected among other towns in the Eastern part of Ethiopia due to the diversity of its population in ethnicity (there are around 50 ethnic groups in the town) and diversity in terms of religious affiliation of the population [15]. Moreover, 12 out of 19 kebeles (sub- districts, smallest administrative unit in Ethiopia) in the town are included in Harar Urban HDSS.

In 2013 the total population of Harar Urban HDSS was 30,055 (52.2% females and 47.8% males) and the sex ratio was 91.4%. Crude birth rate was 20.3 births per 1000 midyear population, general fertility rate was 64 births per 1000 women of reproductive age and total fertility rate was 1.9 births per woman in 2013 [16].

Study design

A community based matched case-control study was conducted between September 2018 to March 2019 in Harar Urban Health and Demographic Surveillance System.

Cases: A married couple of whose wives were in the reproductive age (15-49 years) and non-pregnant during the data collection period and who were found effective communicator.

Controls: A married couple of whose wives were in the reproductive age (15-49 years) and non-pregnant during the data collection period and who were found non-effective communicator.

Matching: Cases and controls were matched by date of birth within ten years interval.

Sample Size and Sampling

The sample size was computed using PS (power and sample size calculation) software. The sample size was calculated by assuming: the prevalence of contraceptive use among controls to be 50% [4]; 1.3 times higher odds (OR) of contraceptive use among couples who had effective communication about family planning [17]; power of 80%, a 5% significance level, a 1:1 control to case ratio; a correlation coefficient (□) for exposure between matched case and control being unknown and hence considering a 0.2 (□) coefficient, as suggested by Dupont, 1988[18], a minimum of 1146 cases and 1146 controls were required for the study. This sample was distributed among the 12 kebeles according to the proportion of currently married couples whose wives were in the reproductive age and non-pregnant at the survey. All the 12 kebeles of Harar Urban HDSS were included in the current study. The complete list of currently married couples whose wives were 15–49 years (reproductive age) and non-pregnant was taken from Harar Urban HDSS database and used as a sampling frame. Married couples were then randomly sampled from each kebele, based on a computer generated random number list using the allocated sample size.

Data collection

Data were collected using structured questionnaires. For male and female respondents, separate questionnaires were administered. But the contents of the questionnaires were similar which include

socio-economic and demographic variables such as age, duration of current marriage, ethnicity, religion, education, occupation, number of living children, desired number of children, household ownership of assets and household income; knowledge/attitude to family planning variables such as knowledge of family planning methods, attitude towards family planning, attitude towards large family size and approval of family planning; couples' participation in family planning use decision and their exposure to family planning message through mass media such as radio, television, newspapers, posters, pamphlets, etc and through interpersonal communication with health personnel, friends, relatives, neighbors. And couples' family planning communication and their ever and current modern contraceptive use were also measured.

The survey instruments were adapted from a validated questionnaire and were considered reliable [19]. Questionnaires were pre-test among one percent of the total sample in an area other than the study site, but with a similar set-up. Twelve male and twelve female data collectors participated in the study and were supervised by two field coordinators. Data collectors were recruited from the local community. The interview was conducted in a private location, each couple at a time (first woman and next man) but separately keeping interviewee privacy. The interview was conducted if both spouses agreed to participate in the study.

Measurement

Spousal family planning communication was measured based on the question "Have you ever discussed about family planning with your husband/wife in the last 12 months?" Hence, the responses were coded as 1 if both spouses agree they discussed or the husband alone reported ever discussed or the wife alone reported ever discussed and 0 if both spouses agree they never discussed [20].

Effective spousal family planning communication was measured by taking three variables, i.e., spousal family planning discussion in the last 12 months prior to the survey date; couples' approval or disapproval of family planning and spouses' perceptions about their partner's approval of family planning and couple's fertility desires which were defined through their responses regarding the number of children that each spouse would choose to have for his or her entire reproductive life (ideal family size). Hence, effective communication about family planning among couples exists when couples discuss about family planning in the last 12 months prior to the survey date; when husband's perception to his wife's family planning approval matches with wife's response to family planning approval question and when wife's perception to her husband's family planning approval matches with husband's response to family planning approval question and when responses of couples' to their desired number of children concords [21]. Couples' who communicated about family planning were coded as 1 otherwise 0; When husband's family planning approval response matches to his wife's perception about his family planning approval, it is coded as 1 otherwise 0; when wife's family planning approval response matches to her husband's perception about her family planning approval, it is coded as 1 otherwise 0; when the ideal family size of husband and wife matches, it is coded as 1 otherwise 0. Using these three variables

composite variable is created, effective communication and non-effective communication. Those couples scored 1 for all variables were effective communicators otherwise non-effective communicators.

Wealth index was calculated using the principal component analysis (PCA) method. Items were assessed owing to household facilities including ownership of house, materials of the floor of the house, materials of the wall of the house, materials of the roof of the house, electricity, TV, Radio, Refrigerator, Chair, Table, Sofa, Electric Mitad, Bicycle, Motorcycle, Car, Sewing machine, Source of drinking water, Kinds of toilet, Fuel for cooking food and the number of animals owned (Cows, Oxen, Mules, Goats, Sheep, Camel, Donkey, Chickens). Nine components were extracted based on examination of Eigen-values, scree plots and the cumulative proportion of variance explained by each component. The first component consisting of several heavily loaded variables and accounted for the largest variation in the data was categorized into quintiles. Each household falls into a category with lowest score representing the poorest and the medium score and the highest representing the richest households [22].

Statistical analysis

The data were double entered, validated and cleaned using Epi-Data Software version 3.1 and analyzed using stata version 12. Simple descriptive analysis was done to explore levels of effective spousal family planning communication by various socio-economic, demographic, knowledge and attitude towards family planning. Bivariate analysis used to assess the association between socio-economic, demographic, knowledge and attitude towards family planning and effective spousal family planning communication. We applied conditional logistic regression model for estimating odds ratio and to identify predictors of effective spousal family planning communication. Variables significant at P-value of <0.05 in the bivariate analysis were considered in the multivariable analysis and odds ratio (OR) along with 95%CIs were estimated and a P-value <0.05 was used to declare the statistical significance. Multi-collinearity between each explanatory variable included was checked using variance inflation factor (VIF). Accordingly couples' frequency of family planning discussion and men's family planning counseling by health workers were not included in the model due to multi-collinearity with couples' family planning discussion with their friends/relatives and women's family planning counseling by health workers, respectively.

Ethical clearance

This study was conducted according to the principles of the declaration of Helsinki. Ethical clearance was obtained from Institutional Health Research Ethics Review Committee of College of Health and Medical Sciences, Haramaya University (IHRERC/158/2018, dated 30 May 2018). To safeguard the autonomy of the study participants, objectives of the research was clearly communicated and informed, voluntary, written and signed consents were obtained from the study participants prior to the data collection. To maintain anonymity and confidentiality, names of the study participants were not mentioned in the questionnaires. No person had access to the information collected from the study participants except research team. Privacy of the study participants was maintained during the interview.

Results

A total of 1010 couples (cases) and 1010 couples (controls) were included in the study, giving the response rate of 88.1%. Most of the cases (63.2%) and controls (51.6%) were followers of Christianity in terms of religion. About 52.3% of the cases and 56.9% of the controls were house wives while 21% of the cases and 17.6% of the controls were government employee in terms of occupation. Among men, 39.1% of the cases and 34.6% of the controls were merchants or privately employed. Majority of the couples, 64.1% of the cases and 53.7% of the controls had one to two living children (Table 1).

Table 1
Socio-Economic and Demographic Characteristics of study participants in Harar, Eastern Ethiopia, 2019

Variables	Cases N(%)	Controls N(%)
Age of couples		
Both < 35yrs	373(37.0)	282(27.9)
Both 35 + yrs	302(29.9)	348(34.5)
Husband 35+ & wife < 35yrs	334(33.1)	380(37.6)
Religion of couples		
Both Muslim	323(32.2)	411(40.90)
Both Christian	633(63.2)	519(51.6)
Other	46(4.6)	75(7.5)
Education of couples		
Both illiterate	11(1.1)	13(1.3)
Both primary(1–8)	150(14.9)	189(18.7)
Both secondary+	360(35.7)	328(32.5)
Either husband or wife educated	478(47.4)	474(47.0)
Other	10(1.0)	5(0.5)
Occupation of women		
House wife	528(52.3)	575(56.9)
Government employee	212(21.0)	178(17.6)
Merchant/private employee	183(18.1)	168(16.6)
Other	87(8.6)	89(8.8)
Occupation of men		
Daily laborer	126(12.5)	186(18.4)
Government employee	377(37.3)	347(34.4)
Merchant/private employee	395(39.1)	349(34.6)
Other	112(11.1)	128(12.7)
Number of living children couples have		

Variables	Cases N(%)	Controls N(%)
1-2children	595(64.1)	496(53.7)
3-4children	254(27.3)	286(31.0)
5 + children	80(8.6)	141(15.3)
Couples' desired number of children		
Both want 1-4children	498(49.5)	322(32.1)
Both want 5 + children	211(21.0)	250(25.0)
Discordant desires	281(27.9)	409(40.8)
Other	16(1.6)	21(2.1)
Couples' future fertility intention		
Have another child	724(72.0)	614(61.4)
No more/none	105(10.4)	104(10.4)
Discordant intention	165(16.4)	258(25.8)
Other	12(1.2)	24(2.4)
Number of children husband wants compared to his wife		
Same number	754(77.6)	358(35.6)
More children	79(8.1)	326(32.4)
Fewer children	139(14.3)	127(12.6)
Don't know		195(19.4)
Number of children wife wants compared to her husband		
Same number	777(77.2)	392(39.7)
More children	148(14.7)	215(21.8)
Fewer children	78(7.8)	192(19.4)
Don't know	3(0.3)	189(19.1)
House hold monthly income		
<=3000birr	552(56.4)	512(52.4)
3001-6000birr	285(29.1)	321(32.8)
6001 + birr	142(14.5)	145(14.8)

Variables	Cases N(%)	Controls N(%)
Wealth index		
Lowest	202(20.9)	162(16.9)
Second	178(18.4)	207(21.6)
Middle	153(15.8)	207(21.6)
Fourth	217(22.4)	190(19.8)
Highest	219(22.6)	192(20.0)

About 93.7% of the cases and 62.6% of the controls approved the use of family planning methods. Of women 53.5% of the cases and 36.6% of the controls were counseled about family planning by health workers. Of men, 33.6% of the cases and 21.6% of the controls were counseled about family planning by health workers. Of women, 84.9% of the cases and 79.4% of the controls knew five and above five family planning methods. Similarly, of men, 82.4% of the cases and 73.5% of the controls knew five and above five family planning methods (Table 2).

Table 2
Couples Attitude towards family planning, family planning counseling by health workers and initiation of family planning communication in Harar, Eastern Ethiopia, 2019

Variables	Cases N(%)	Controls N(%)
Couples' approval of FP use		
Both disapprove	43(4.3)	76(7.5)
Both approve	946(93.7)	632(62.6)
Either husband or wife approve	21(2.1)	302(29.9)
FP counseling of women		
Not counseled	354(46.5)	453(63.5)
Counseled	407(53.5)	261(36.6)
FP counseling of men		
Not counseled	291(66.4)	279(78.4)
Counseled	147(33.6)	77(21.6)
Number of FP methods women know		
Less than five methods	152(15.2)	207(20.6)
Five and above five methods	851(84.9)	798(79.4)
Number of FP methods men know		
Less than five methods	177(17.7)	266(26.5)
Five and above five methods	826(82.4)	739(73.5)
Couples' frequency of FP communication		
Once or twice	88(9.5)	89(13.2)
Sometimes	595(64.3)	357(52.7)
More often	38(4.1)	23(3.4)
Discordant responses	205(22.1)	208(30.7)
Couples' FP discussion with friends/neighbors/etc		
Both not discussed	159(15.9)	302(30.3)
Both discussed	482(48.1)	266(26.7)
Either husband or wife discussed	361(36.0)	428(43.0)

Variables	Cases N(%)	Controls N(%)
Final decision of FP use		
Wife	285(28.3)	358(35.6)
Husband	34(3.4)	83(8.3)
Both	688(68.2)	561(55.8)
Other	2(0.2)	4(0.4)
Couples' exposure to FP message on TV		
Both unexposed	30(3.0)	56(5.6)
Both exposed	843(83.5)	721(71.5)
Either husband or wife exposed	137(13.6)	231(22.9)
Couples' exposure to FP message on News paper		
Both unexposed	649(64.3)	689(68.4)
Both exposed	97(9.6)	50(5.0)
Either husband or wife exposed	264(26.1)	268(26.6)
Couples' exposure to FP message on pamphlets		
Both unexposed	331(32.8)	448(44.4)
Both exposed	373(37.0)	205(20.3)
Either husband or wife exposed	304(30.2)	355(35.2)
Couples' exposure to FP message on community events		
Both unexposed	474(47.1)	635(63.1)
Both exposed	165(16.4)	67(6.7)
Either husband or wife exposed	368(36.5)	305(30.3)
Couples' attitude towards large family size		
Both agree/Strongly agree	312(31.4)	447(45.1)
Both disagree/Strongly disagree	305(30.7)	149(15.0)
Either husband or wife agree	378(38.0)	395(39.9)

We fitted four models. The first model assesses the association between Socio-Economic and Demographic variables and effective spousal family planning communication. The second model assesses the association between family planning approval/discussion/decision making variables and effective spousal family planning communication. The third model assesses the association between knowledge of family planning methods and exposure to family planning messages on media and effective spousal family planning communication. The final model assesses the association between Socio-Economic, Demographic, family planning knowledge/approval/decision making and exposure to family planning message on media and effective spousal family planning communication by taking variables that are significant in the three models (Table 3).

Multivariable analysis

In the final model, husbands' desire for more children (aOR=0.2; 95%CI:0.11, 0.41), wives' desire for more children (aOR=0.1; 95%CI: 0.06, 0.34) and fewer children (aOR=0.4; 95%CI: 0.19, 0.84), couples' approval of family planning use (aOR=2.3; 95%CI: 0.65, 8.37), and women's family planning counseling by health workers (aOR=2.1; 95%CI: 1.12, 3.80) were found significantly associated with effective spousal family planning communication (Table 3).

Table 3
Conditional Logistic Regression coefficients of Effective Spousal Family Planning Communication by selected Socio-Economic, Demographic, Family planning knowledge and Attitude variables, Harar, Eastern Ethiopia, 2019

Variables	Model 1	Model 2	Model 3	Model 4
	aOR(95%CI)	aOR(95%CI)	aOR(95%CI)	aOR(95%CI)
Religion of couples				
Both Muslim (RC)				
Both Christian	1.2(0.76,1.86)			
Other	0.6(0.31,1.23)			
Education of couples				
Both illiterate (RC)				
Both primary (1–8)	1.0(0.22,4.30)			
Both secondary+	0.9(0.21,3.99)			
Either husband or wife educated	1.1(0.26,4.50)			
Other	0.4(0.02,6.58)			
Occupation of men				
Daily laborer (RC)				
Government employ	0.9(0.50,1.63)			
Merchant/private employee	1.1(0.63,1.85)			
Other	1.8(0.90,3.46)			
Number of living children couples have				
1-2children (RC)				
3-4children	1.1(0.70,1.62)			
5 + children	0.7(0.38,1.17)			
Desired number of children				
Both want 1-4children (RC)				
Both want 5 + children	0.6(0.34,0.97)*			1.4(0.68,3.05)
Discordant desires	0.7(0.42,0.99)*			0.9(0.50,1.78)

***Significant at P < 0.05; aOR = adjusted odds ratio**

Variables	Model 1	Model 2	Model 3	Model 4
	aOR(95%CI)	aOR(95%CI)	aOR(95%CI)	aOR(95%CI)
Other	0.5(0.13,1.80)			0.5(0.07,3.64)
Couples' future fertility intention				
Have another child(RC)				
No more/none	1.5(0.80,2.74)			
Discordant intention	1.2(0.76,1.85)			
Other	0.7(0.20,2.73)			
Number of children husband wants compared to his wife				
Same number (RC)				
More children	0.3(0.16,0.39)*			0.2(0.11,0.41)*
Fewer children	0.5(0.28,0.85)*			0.9(0.40,2.11)
Don't know	0.1(0.12,0.22)			0.1(0.11,0.18)
Number of children wife wants compared to her husband				
Same number (RC)				
More children	0.2(0.11,0.33)*			0.1(0.06,0.34)*
Fewer children	0.6(0.41,1.01)			0.4(0.19,0.84)*
Don't know	0.1(0.13,0.20)			0.2(0.07,0.22)
Wealth index				
Poorest (RC)				
Poorer	0.4(0.23,0.79)*			1.1(0.40,2.97)
Middle	0.6(0.32,1.08)			0.7(0.23,2.10)
Richer	0.7(0.37,1.20)			1.2(0.46,3.15)*
Richest	0.4(0.22,0.73)*			1.0(0.40,2.70)
Couples' attitude towards large family size				
Both agree/strongly agree (RC)				
Both disagree/strongly disagree	1.9(1.11,3.10)*			1.5(0.65,3.27)

***Significant at P < 0.05; aOR = adjusted odds ratio**

Variables	Model 1	Model 2	Model 3	Model 4
	aOR(95%CI)	aOR(95%CI)	aOR(95%CI)	aOR(95%CI)
Either husband or wife agree	1.4(0.94,2.10)			0.9(0.48,1.77)
Couples' approval of FP use				
Both disapprove (RC)				
Both approve		2.3(1.16,4.53)*		2.3(0.65,8.37)*
Either husband or wife approve		0.1(0.02,0.18)		0.1(0.01,0.23)
FP counseling of women by Health Workers				
Not counseled (RC)				
Counseled		1.6(1.15,2.29)*		2.1(1.12,3.80)*
Couples' FP discussion with friends				
Both not discussed (RC)				
Both discussed		1.8(1.17,2.70)*		2.2(0.95,5.18)
Either husband or wife discussed		1.2(0.75,1.78)		1.2(0.57,2.64)
Final decision of FP use				
Husband (RC)				
Wife		0.8(0.39,1.67)		
Both/Joint		1.6(0.79,3.14)		
Other		0.1(0.14,0.21)		
Number of FP methods women know				
Less than 5methods (RC)				
Five & above methods			1.2(0.93,1.58)	
Number of FP methods men know				
Less than 5methods (RC)				
Five & above five methods			1.4(1.08,1.76)*	0.5(0.25,1.01)
Couples' exposure to FP message on TV				

***Significant at P < 0.05; aOR = adjusted odds ratio**

Variables	Model 1	Model 2	Model 3	Model 4
	aOR(95%CI)	aOR(95%CI)	aOR(95%CI)	aOR(95%CI)
Both unexposed (RC)				
Both exposed			1.6(0.98,2.62)	
Either husband or wife exposed			1.1(0.66,1.83)	
Couples' exposure to FP message on News paper				
Both unexposed (RC)				
Both exposed			1.2(0.78,1.79)	
Either husband or wife exposed			0.9(0.71,1.12)	
Couples' exposure to FP message on pamphlets				
Both unexposed (RC)				
Both exposed			1.5(1.13,1.99)*	0.8(0.34,1.89)
Either husband or wife exposed			0.9(0.72,1.19)	0.6(0.27,1.13)
Couples' exposure to FP message on community events				
Both unexposed (RC)				
Both exposed			1.9(1.11,3.10)*	4.5(1.32,15.52)*
Either husband or wife exposed			1.4(0.94,2.10)	1.6(0.87,2.98)*
***Significant at P < 0.05; aOR = adjusted odds ratio**				

Discussion

In the final model discordance between husband and wife on the number of children desired, household wealth status, couples' approval of family planning use, women's counseling about family planning by health workers and couples' exposure to family planning message on community events were associated with effective spousal family planning communication.

The current study reveals that discordance in the number of children that husband and wife desired were significantly associated with effective spousal family planning communication. This finding is consistent with a study in India in which couples who desire additional children were 62% less likely to communicate about family planning compared to their counterparts who did not desire additional child [17]. The current finding is also consistent with the finding in Senegal in which couples who had more children were more

likely to report their communication about family planning compared to their counterparts who had fewer children [23]. This implies that spouses who desire to have much children may not be interested in family planning communication as they may consider it hinder them from having the number of children they want [24].

The current study revealed that couples from richer households were more likely to communicate about family planning compared to their counterparts from poorest households. This finding is consistent with the findings from the study by Olawole-Isaac et al., 2018 in Nigeria in which communication about family planning was higher for couples in rich wealth status compared to their counterparts from poorer wealth status [25]. The current finding is also consistent with the finding from a study in Bangladesh in which couples from households with higher income were 4.5 times more likely to communicate about family planning compared to their counterparts who were from households with lower income [26].

This study revealed that couples who approve the use of family planning methods were found to communicate more compared to their counterparts who did not approve the use of family planning methods. This finding is consistent with the findings in Bangladesh and India in which couples who approve family planning were 5.3 times [27] and 3.5 times [28] more likely to communicate about family planning compared to their counterparts who did not approve the use of family planning, respectively. This findings is also consistent with the findings by Berhane et al., 2011[3] in Angolela Tera District, Amhara Region, Ethiopia, Zakaria and Azim, 2016[26] in Bangladesh and Dodoo et al., 2016[29] in Kenya in which couples who approve the use of family planning methods were found more likely to communicate about family planning compared to their counterparts who did not approve the use of family planning methods

Wives counseling about family planning by health workers were found significantly associated with effective spousal family planning communication in this study. This finding is consistent with the findings by Irawaty et al., 2020 in Indonesia in which wives who discussed family planning with health workers were 2.5 times more likely to communicate about family planning with their spouses compared to their counterparts who did not discuss it with the health workers [30]. Similarly, an interventional study that involved couple counseling about family planning which is conducted in Jordan revealed an increase in spousal communication on family planning, both by women (9.8 percentage points) and by men (10.3 percentage points) [31]. In the current study effective spousal family planning communication was found to be higher among couples who had family planning discussion with their friends/relatives. Information about contraception and its social acceptability travels through social networks to influence individual decisions. Social networks encourage couples to talk about family planning by giving them adequate background information to introduce the topic to their spouses [7].

In this study couples exposure to family planning information through mass media particularly community events was significantly associated with effective spousal family planning communication. Our finding is comparable with the findings of a study conducted in Nigeria that indicated couples who had exposure to family planning message on media were 1.8 times more likely to communicate about

family planning compared to their counterparts who had no exposure to family planning message on media [32]. The current finding is also consistent with the findings from previous studies such as a study by Islam et al., 2010 in Bangladesh, a study by Zakaria and Azim, 2016[26] in Bangladesh, a study by Speizer et al., 2018[23] in Senegal and a study by Irawaty et al., 2020[30] in Indonesia revealed that couples who had exposure to family planning message on media were more likely to communicate about family planning compared to their counterparts who had no exposure to family planning message on media. Exposure to family planning messages through mass media has been credited to facilitate couples' family planning communication and increased contraceptive use in developing countries [27].

The strength of our study lies in its use of dyadic data that enables to get perspectives from both men and women unlike most family planning surveys that relied on women's report of their husband's/partner's approval. In addition, the current study dealt with large sample size that gives more reliable results with greater precision. However, it also had some limitations. First, since the current study depended on cross sectional data, self-reported measures of sensitive information may produce risks of social desirability bias. Another limitation of our study was it covered only urban areas. We have no study participants from rural parts of Eastern Ethiopia which limits its generalizability to rural parts of this region.

Conclusion

In conclusion, variables related to discordance in the number of children husband and wife desired, family planning approval, counseling and exposure to family planning message on media and wealth status of couples were found to significantly predict effective spousal family planning communication. Thus, the study results imply that policies and programs aimed at promoting family planning should strengthen family planning information, education and communication activities to enable couples concord on their desired number of children and develop positive attitude towards family planning. Family planning counseling activities by health extension workers and other health workers should be strengthened so that couples can make informed, voluntary choice and decision regarding fertility and contraception and get information regarding all methods of contraception, their advantages and their expected side effects to clear out the common misconceptions about each method among couples.

Abbreviations

CI, confidence interval; HDSS, Health and Demographic Surveillance System; FP, family planning; aOR, adjusted odds ratio; RC, reference category; TV, television; P, P-value (or significance level); HW, health workers.

Declarations

Ethical Approval and Consent

Ethical approval was secured from Institutional Health Research Ethics Review Committee of College of Health and Medical Sciences, Haramaya University. Informed, voluntary, written and signed consent was obtained from the study participants.

Consent for publication

All authors read and reviewed the manuscript and agreed for its publication

Availability of data and materials

Data analyzed and materials used for this article are available with the corresponding author and can be obtained on request.

Competing interests

The authors declared that they have no conflicts of interest for this work.

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Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising and critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work

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