KEMAS 18 (4) (2022) 463-472

Jurnal Kesehatan Masyarakat

http://journal.unnes.ac.id/nju/index.php/kemas

Knowledge and Perceptions Role Towards Modern Male Contraceptives Use in Indonesia

Titis Risti Yulianti[1]✉, Kemal Nazarudin Siregar[2], Milla Herdayati[2], Indra Supradewi[3]
[1]Reproductive Health Study Group, Faculty of Public Health, Universitas Indonesia
[2]Department of Biostatistics and Population Science, Faculty of Public Health, Universitas Indonesia
[3]Health Polytechnic, Ministry of Health, Jakarta III

Article Info

Article History:
Submitted August 2022
Accepted October 2022
Published April 2023

Keywords:
knowledge, perceptions, man modern contraceptives

DOI
https://doi.org/10.15294/kemas.v18i4.38234

Abstract

The use of modern male contraceptives is much lower than among women in Indonesia, and there are quite large differences when compared to several countries in Asia because the use of modern male contraceptives from 2002-2012 in Indonesia was always low due to a lack of knowledge and negative perception about Family Planning. This study aimed to determine the role of knowledge and perceptions of family planning for use of modern male contraceptives in Indonesia. This research method used a cross-sectional design on a secondary basis based on the 2017 IDHS. The result of this study is that there is a relationship between knowledge and perception of family planning in the use of modern male contraceptives after being controlled by education level, area of residence, and fertility preferences. This study concludes that married men who use modern contraceptives are those who have good knowledge and positive perceptions about family planning, found in married men who have a high level of education, live in urban areas, and do not want to have children anymore. This study recommends a particular male family planning program based on gender equality by prioritizing special substances regarding family planning knowledge and perceptions.

Introduction

Family planning services (KB), including the use of modern contraception, are on the third agenda in the fourth period of the National Medium-Term Development Plan, namely increasing access to and quality of health services (BKKBN et al., 2018). The use of contraception aims to regulate birth spacing, prevent pregnancy in women with high risk (for example, women who are too young or too old), and prevent unwanted pregnancies (KTD), where unwanted pregnancies can cause unsafe abortions and complications of pregnancy and childbirth so that This can increase maternal and child morbidity and mortality (WHO, 2019). One of the causes of unwanted pregnancy is unmet needs, where the percentage of unmet needs in Indonesia according to IDHS data for 2017 shows a percentage of 10.6% (BKKBN et al., 2018). The incidence of unmet need is not only influenced by the non-fulfillment of contraceptive use in women but can occur due to the lack of male participation in contraceptive use (Dougherty et al., 2018).

Trends in the use of modern contraception worldwide show an increase from 53% (1994) to 63% (2019). Likewise in Indonesia, it has increased from 50% (1991) to 63.6% (2017) (BKKBN et al., 2018; United Nations, 2019). Although the trend of modern contraceptive use shows an increase, the use of modern male contraception (condoms and vasectomy) is always low in the world and Indonesia. Based on

✉ Correspondence Address:
Reproductive Health Study Group, Faculty of Public Health, Universitas Indonesia
Email : titisristi98@gmail.com

pISSN 1858-1196
eISSN 2355-3596

IDHS data for 2002-2012, the use of condoms and vasectomy is below 5%. It is very different from the use of modern female contraception in Indonesia, one of which is the use of injections which has reached 30% (BKKBN et al., 2018). The use of condoms and vasectomy in Indonesia is also quite far when compared to the use of condoms and vasectomy in several Asian countries, such as the use of vasectomy in Bhutan and Korea, which have reached 8% and 9% respectively, and the use of condoms in Hong Kong and Japan respectively 34.1% and 34.9% (United Nations, 2019).

The high difference in the use of modern contraception by men and women in Indonesia can lead to gender disparities related to family planning due to the dominance of family planning services provided to women (Peter & Chinyere, 2015). Even though men need to take responsibility for forming a prosperous family by actively participating in using condoms or vasectomy, so that the use of contraception is not only borne by women (BKKBN, 2021). Based on several recent studies, the low use of modern male contraception is due to a lack of knowledge about family planning, and there are still negative perceptions about family planning, namely family planning is only a woman's business, women should be sterilized, vasectomy is the same as castration, vasectomy prohibition by religion, vasectomy can reduce male virility, and condoms can reduce sexual pleasure (Bhatt et al., 2021; Dral et al., 2018; Kabagenyi, Ndugga, et al., 2014; Kriel et al., 2019; Manortey & Missah, 2020; White et al., 2020).

The use of man modern-contraception is a good health behavior. It is affected by several factors, including knowledge and perceptions of family planning. Based on previous studies, they are those who have good family planning knowledge and positive family planning perceptions (Kamal et al., 2013; White et al., 2020). Several ways to increase the use of man modern-contraception are increasing access to male family planning services, such as increasing male family planning counseling and outreach activities, increasing the use of mass media, having male family planning groups, and having male family planning cadres, as well as the need for communication regarding KB with wife (Bhatt et al., 2021; Kabagenyi, Jennings, et al., 2014; Manortey & Missah, 2020). Based on the explanation of the problems above, this study aims to determine the role of knowledge and perceptions of family planning on the use of modern contraceptives for married men in Indonesia based on data from the 2017 IDHS.

Method

This research was quantitative and based on secondary data from the 2017 IDHS. The design of this study was cross-sectional and conducted in June 2022 in Indonesia. The population in this study were all married men in Indonesia in 2017, and the sample was married men aged 15-54 who lived in Indonesia at the time of the 2017 IDHS. The IDHS sample was taken in two stages, namely the selection of the census block by probability proportional to size and the stratification process according to urban and rural areas, which ultimately resulted in 10,009 men interviewed. Of the 10,009 men, 68 data were removed from men who were not married, as well as 1,933 missing data and 28 outliers data, so that 7,980 samples of married men with complete data were obtained. The sample is sufficient to be studied because the minimum number is 2,424 married men, obtained using the sample size formula to test the hypothesis that there are two different proportions based on the proportions from previous studies.

Data analysis used complex samples with weighting enabled, including univariate, bivariate, and multivariate analysis using SPSS 25. Bivariate analysis was by chi-square, and multivariate analysis was by multiple logistic regression with risk factor models. The dependent variable in this study was the use of man modern-contraception (using condoms or vasectomy), and the independent variables were knowledge and perceptions about family planning. The relationship between the dependent and independent variables is controlled by the covariate variables, namely age, area of residence, education level, economic status, working status, fertility preference, number of living children, family planning discussions with wives, family planning discussions with health workers, and exposure to mass media.

The substance of male family planning knowledge was taken from 12 questionnaire questions of married men, including having heard of condoms and vasectomy, women's fertile period, condoms can prevent HIV, vasectomy makes men safe, vasectomy is effective, vasectomy surgery is safe, vasectomy is safer than tubectomy, vasectomy is inexpensive, vasectomy is cheaper than tubectomy, surgery is easy, and can give men freedom. Then the substance of family planning perceptions was taken from 9 questions in a married man's questionnaire, which included family planning is only a woman's business, vasectomy is the same as castration, women who should be sterilized, women who use contraception will change sexual partners, wives can order husbands to use condoms if their husbands have an infection sexually transmitted infections (STI), vasectomy is not beneficial for men's health, vasectomy surgery is not safe, vasectomy can reduce male virility, and vasectomy prohibition by religion. Family planning knowledge is good if the score is >2, and family planning knowledge is poor if the score is ≤2. While positive perceptions are if the score is >4 and negative perceptions are if the score is ≤4. Determination of the score is adjusted to the average condition of knowledge and perceptions of family planning among married men in Indonesia. In the variable exposure to mass media, the mass media in question is exposure to television, radio, newspapers, posters, pamphlets and the internet. In the variable, level of education, the education level is said to be low if not attending school, graduating from elementary school, and graduating from junior high school,.The education level is high, if graduating from high school and college graduate.

Results and Discussions

Based on Table 1, the participation in the use of modern male contraception is low, namely 4% (95% CI: 3.4%-4.6%), which includes the use of condoms 3.8% and vasectomy 0.2%. Then most married man in Indonesia has poor family-planning knowledge and negative family-planning perceptions. Based on the covariate variables, most married men in Indonesia are aged ≥35 years, live in urban areas, have a higher education level and upper middle economic status, are working, still want to have more children, have ≤2 living children, have family planning discussions with their wives, not hold family planning discussions with health workers, and be exposed to at least 1 mass media.

Table 2 shows a relationship between knowledge and perceptions of family planning on the use of modern male contraception in Indonesia. In the covariate variables, there appears to be a relationship between age, area of residence, education level, economic status, fertility preferences, family planning discussions with wives, and mass media exposure to male modern contraceptive use in Indonesia. After going through several stages of multiple logistic regression with the risk factor model, there were no covariate variables that interacted with the independent variables, and the confounding variables were obtained, namely the area of residence, level of education, and fertility preferences. Table 3 shows a relationship between knowledge and perceptions of family planning on men's use of modern contraception after controlling for education level, area of residence, and fertility preferences.

Table 1. Univariate Results

Characteristics of Married Man ages 15-54 Years in Indonesia		n	%	95% CI
Modern male contraceptive use				
a.	No	7.644	96	95,4-96,6
b.	Yes	316	4	3,4-4,6
FP Knowledge				
a.	Poor	4.875	61,1	59,4-62,7
b.	Good	3.105	38,9	37,3-40,6
FP Perception				
a.	Negative	4.971	62,3	60,5-64
b.	Positive	3.009	37,7	36-39,5
Age				
a.	<35 years	2.514	31,5	30,3-32,8
b.	≥35 years	5.466	68,5	67,2-69,7
Residential Area				
a.	Rural	3.708	46,5	45,2-47,7
b.	Urban	4.272	53,5	52,3-54,8
Education Level				
a.	Low	3.782	47,4	45,8-49
b.	High	4.193	52,6	51-54,2
Economic Status				
a.	Middle Low	2.507	31,4	29,9-33
b.	Average	1.715	21,5	20,3-22,7
c.	Middle Up	3.758	47,1	45,4-48,8
Occupational Status				
a.	Not work	142	1,8	1,4-2,2
b.	Work	8.838	98,2	97,8-98,6
Fertility Preference				
a.	Want more child/Not yet decide	4.348	54,5	53,1-55,9
b.	Not want more child/male or spouse has been sterilized/infertile	3.632	45,5	44,1-46,9
Number of living child				
a.	≤2 children	5.693	71,3	70,1-72,5
b.	>2 children	2.287	28,7	27,5-29,9
FP discussion with spouse				
a.	Yes	3.960	49,6	48,1-51,2
b.	No	4.020	50,4	48,8-51,9
FP discussion with health attendant				
a.	Yes	1.067	13,4	12,4-14,4
b.	No	6.913	86,6	85,6-87,6
Mass media exposure				
a.	Unexposed	2.138	26,8	25,3-28,3
b.	Exposed	5.842	73,2	71,7-74,7
Total		**7.980**	**100**	

Source: IDHS, 2017

Table 2. Bivariate Results

Characteristics of Married Man ages 15-54 Years	Modern Contraception Use on Married Man				p-value	OR (95% CI)
	Not use		Use			
	n	%	n	%		
FP Knowledge						
a. Poor	4.760	97,7	115	2,3		Ref
b. Good	2.904	93,5	201	6,5	0,000	2,881 (2,148-3,864)
FP Perception						
a. Negative	4.826	97,1	145	2,9		Ref
b. Positive	2.839	94,3	170	5,7	0,000	1,989 (1,493-2,649)
Age						
a. <35 years	2.435	96,8	79	3,2		Ref
b. ≥35 years	5.229	95,7	237	4,3	0,029	1,388 (1,034-1,865)
Residential Type						
a. Rural	3.626	97,8	83	2,2		Ref
b. Urban	4.038	94,5	233	5,5	0,000	2,530 (1,765-3,628)
Education Level						
a. Low	3.705	97,9	78	2,1		Ref
b. High	3.959	94,3	238	5,7	0,000	2,874 (2,081-3,969)
Economic Status						
a. Middle Low	2.463	98,2	44	1,8		Ref
b. Average	1.660	96,8	55	3,2	0,116	-
c. Middle Up	3.541	94,2	217	5,8	0,000	2,545 (1,884-3,438)
Occupational Status						
a. Not Work	140	98,7	2	1,3		Ref
b. Work	7.524	96	314	4	0,126	-
Fertility Preference						
a. Want more child/not yet decide	4.206	96,7	142	3,3		Ref
b. Not want more child/male or spouse has been sterilized/ infertile	3.458	95,2	174	4,8	0,002	1,489 (1,157-1,916)
Number of living child						
a. ≤2 children	5.468	96,1	225	3,9		Ref
b. >2 children	2.196	96	91	4	0,949	-
FP discussion with spouse						
a. No	3.900	97	120	3		Ref
b. Yes	3.764	95	196	5	0,000	1,698 (1,274-2,263)
FP discussion with health attendant						
a. No	6.636	96	277	4		Ref
b. Yes	1.028	96,3	39	3,7	0,629	-
Mass media exposure						
a. Unexposed	2.093	97,9	45	2,1		Ref
b. Exposed	5.572	95,4	270	4,6	0,000	2,245 (1,516-3,325)

Source: IDHS, 2017

Table 3. Multivariate Results

Variables	B	p-value	OR	95% CI
Independent Variables				
FP Knowledge				
a. Poor			Ref	
b. Good	0,704	0,000	2,021	1,495-2,732
FP Perception				
a. Negative			Ref	
b. Positive	0,343	0,017	1,408	1,063-1,867
Confounding Variables				
Residential Area				
a. Rural			Ref	
b. Urban	0,654	0,000	1,923	1,335-2,772
Education Level				
a. Low			Ref	
b. High	0,677	0,000	1,968	1,403-2,761
Fertility Preference				
a. Want more child/not yet decide			Ref	
b. Not want more child/male or spouse has been sterilized/infertile	0,358	0,006	1,430	1,108-1,846
Intercept	-4,734			

Source: Primary Data, 2021

From Table 3, a multivariate equation model is obtained, namely Logit P (Use of modern male contraception) = -4.734 + (0.704*Knowledge about family planning) + (0.343*Perceptions about family planning) + (0.654*Region) + (0.677* Education level) + (0.358*Fertility preference). Based on the multivariate equation, the probability calculation is as follows.

$$P = \frac{1}{1 + e^{-(-(-4{,}734 + 0{,}704 + 0{,}343 + 0{,}654 + 0{,}677 + 0{,}358))}} = 0{,}12$$

It means that married men in Indonesia in 2017 who had good knowledge of family planning, had positive family planning perceptions, lived in urban areas, had a high level of education, and did not want to have more children have a probability of using modern male contraception by 12% compared to married men in Indonesia in 2017 who had poor knowledge of family planning, had negative family planning perceptions, lived in a rural area, had a low level of education, and still want to have more children.

The use of modern male contraception in Indonesia in 2017 was low (4%). It was not much different from the use of modern male contraception in the 2017 IDHS report, which was 3.3%. The use of modern male contraception in Indonesia is low when compared to East Asia, which has reached 24.8%, namely the use of condoms in Hong Kong and Japan, which has reached 30%, even the use of vasectomy in Korea has reached 9% and in Bhutan (South Asia) has reached 8% (United Nations, 2019). From this comparison, the use of modern male contraception in Indonesia can be higher, like other countries in Asia, than the current data.

Several studies and the BKKBN state that the low use of modern male contraception is a lack of knowledge of condoms and vasectomy, and there is still a negative perception of family planning, that is, family planning is only a woman's business, women who use contraception will change sexual partners, vasectomy is the same as castration, vasectomy

reduces male virility, vasectomy is prohibited by religion, and condoms can reduce sexual pleasure (Bhatt et al., 2021; BKKBN, 2021; Dral et al., 2018; Manortey & Missah, 2020). Another study in Uganda showed that men still do not know the benefits, effectiveness, and disadvantages of condoms and vasectomy. Because so far, family planning services have been dominantly provided to women, and there are only two male contraceptive options (condoms and vasectomy) (Kabagenyi, Jennings, et al., 2014).

The dominance of family planning services for women causes a gender inequality related to family planning. One of the reasons for this condition is that men/husbands dominate the decision-making to determine the number of children (Peter & Chinyere, 2015). The decision to determine the number of children and those who use contraceptives is more dominantly decided by men, because there is still a patriarchal culture that makes women/wives unable to escape the power of men/husbands, so this still shows that women in Indonesia are powerless regarding family planning (Kc et al., 2021). So it is necessary to emphasize the importance of empowering women related to family planning by participating in decision-making regarding the ideal number of children and those using contraception. With that, the husband and wife will understand each other's condition, and the awareness of men regarding family planning increases that family planning is not only a woman's business, and makes women confident in making decisions regarding family planning with their husbands. So that the burden on the wife to get pregnant, give birth, and use contraception will be reduced because forming the ideal number of children and using contraception is based on a joint decision, so that the wife does not only take care of household affairs, but can continue higher education and work, where women who are empowered in terms of family planning are generally women who have higher education, work, and have the high economic status (Hameed et al., 2014; Kc et al., 2021; Peter & Chinyere, 2015).

Table 3 shows that married men who participate in using modern male contraception are married men who have good family planning knowledge and positive family planning perceptions and those with a higher education level, live in urban areas, and do not want to have more children. In contrast, married men who do not participate in using modern male contraception are married men who have poor family-planning knowledge and negative family planning perceptions, and this is found in married men who have a low level of education, live in rural areas and still want to have more children. It is per several studies in Saudi, Southern United States, Nigeria, sub-Saharan Africa, and Kenya that men who use modern male contraception are men who have good family planning knowledge, positive family planning perceptions, have a high level of education, live in urban areas, and don't want to have any more children. In these studies, the substance of family planning knowledge that is proven based on previous research is knowing or having heard of condoms and vasectomy, condoms can protect against HIV, and vasectomy is an effective method. Then the substance of the perception of family planning proven in previous studies is that family planning is only a woman's business, women who use family planning will change sexual partners, women who should be sterile, vasectomy is the same as castration, vasectomy is prohibited by religion, vasectomy surgery is not safe, and can reduce male virility so that the substance of this knowledge and perception needs to be included in the male family planning program to increase family planning knowledge and change negative perceptions to positive among married men in Indonesia (Ahinkorah et al., 2020; Karim et al., 2021; Ochako et al., 2017; Sait et al., 2021; Thummalachetty et al., 2017; Traore et al., 2021; White et al., 2020).

Men with a higher level of education are easier to accept, absorb, and are more rational in taking new information or things such as male family planning (Idris, 2019; Sait et al., 2021). Conversely, men with low levels of education can hinder their development in receiving new information or things, so educational efforts should be able to build a strong base of contraception knowledge for men (Dougherty et al., 2018). Men who don't want more children tend to seek contraceptive information to prevent pregnancy. In contrast, men who

still want to have more children do not seek contraception information because they think that children are a family asset in the future, so many men want to have many children until they are satisfied (especially boys), and men are usually happy if they have many kids. Men who still want to have more children are those who still have negative perceptions about family planning, namely family planning is only a woman's business, vasectomy is prohibited by religion, and vasectomy can reduce male virility (Sait et al., 2021; Tilahun et al., 2013; Tuloro et al., 2009).

Men living in urban areas generally have easy access to family planning services and information on male family planning (Ahinkorah et al., 2020; Shaweno & Kura, 2020). Men who live in rural areas generally have difficulty accessing family planning services, the minimum number of health workers, there is a cultural factor/belief that family planning is only a woman's business, vasectomy is prohibited by religion, there is an embarrassment when having a vasectomy done because you can no longer have children, and assume that children are family assets (especially men) (Mustafa et al., 2015; Okon et al., 2019). In substance, family planning discussions with health workers and exposure to the mass media had a significant influence on the use of modern male contraception Although, this study shows that family planning discussions with health personnel and exposure to the mass media did not play a role in the use of modern male contraception. Health attendants are the primary source of information on condoms and vasectomy through counseling or outreach (Dehlendorf et al., 2010; Kabagenyi, Jennings, et al., 2014). Regarding exposure to mass media, information on modern male contraception can reach a large audience with interesting content, increasing men's motivation to use modern contraception (Irawaty & Gayatri, 2021). The limitations of this study are that the substance of family planning knowledge is not entirely available in the 2017 IDHS married men questionnaire, such as condoms cannot be reused, condoms can be used without meeting a health worker, condoms are easy to obtain, condom price is affordable, sources of obtaining condoms, and vasectomy must be by professional medical personnel. Likewise, the substance of family planning perceptions is not entirely available in the 2017 IDHS questionnaire for married men, such as condoms can reduce sexual pleasure, vasectomy does not cause pain, and using condoms or vasectomy means that men are also responsible for family reproductive health and reduce the double burden on women in reproductive health.

Conclusions

Participation in modern contraception by married men in Indonesia in 2017 was low, namely 4%. Married men who use modern male contraception are those with good family planning knowledge and positive family planning perceptions, and are found in married men who have a higher level of education, live in urban areas, and do not want to have more children. In contrast, married men who do not participate in using modern male contraception are men who have poor family-planning knowledge and negative family-planning perceptions, and those who have a low level of education, live in rural areas and still want to have more children.

This study recommends a particular family planning program based on gender equity that is socialized to all elements of society to increase awareness of the importance of increasing male participation in contraceptive use. The program must have policy support regarding male contraception, an adequate trained health workers, adequate teaching aids, and supported advertising activities. To increase the use of modern male contraception in the program, special substance regarding family planning knowledge is needed, which includes knowledge of condoms (how to use, effectiveness, and benefits), including condoms can protect against HIV, as well as vasectomy (procedure, effectiveness, and benefits), including vasectomy is an effective method. Likewise, special substance is needed regarding the perception of family planning, which includes family planning not only for women, women using contraception will not change sexual partners, women are not entirely responsible for sterilization, vasectomy is not the same as castration, vasectomy is not

prohibited by religion, vasectomy surgery safe, and vasectomy does not reduce male virility. So that it can increase family planning knowledge and change negative family planning perceptions into positive ones. We recommend further research to increase the use of modern male contraception.

References

Ahinkorah, B.O., Budu, E., Seidu, A.A., Hagan, J.E., Agbaglo, E., Hormenu, T., Schack, T., & Yaya, S., 2020. Consistent Condom Use Among Men who Pay for Sex in Sub-Saharan Africa: Empirical Evidence from Demographic and Health Surveys. *PLoS ONE*, 15(8).

Bhatt, N., Bhatt, B., Neupane, B., Karki, A., Bhatta, T., Thapa, J., Basnet, L., & Budhathoki, S., 2021. Perceptions of Family Planning Services and Its Key Barriers Among Adolescents and Young People in Eastern Nepal: A Qualitative Study. *PLoS ONE*, 16(5).

BKKBN., 2021. Kepala BKKBN: Perlu Inovasi Untuk Meningkatkan Capaian KB Pria. *BKKBN*. https://www.bkkbn.go.id/berita-kepala-bkkbn-perlu-inovasi-untuk-meningkatkan-capaian-kb-pria

BKKBN, BPS, Kemenkes RI, & USAID., 2018. Survei Demografi dan Kesehatan Indonesia 2017. BKKBN, BPS, Kemenkes RI, dan USAID. *BKKBN, BPS, Kemenkes RI, dan USAID.*

Dehlendorf, C., Levy, K., Ruskin, R., & Steinauer, J., 2010. Health Care Providers' Knowledge about Contraceptive Evidence: A Barrier to Quality Family Planning Care?. *National Institutes of Health*, 81(4).

Dougherty, A., Kayongo, A., Deans, S., Mundaka, J., Nassali, F., Sewanyana, J., Migadde, E., Kiyemba, R., Katali, E., Holcombe, S.J., Heil, S.H., & Kalyesubula, R., 2018. Knowledge and Use of Family Planning among Men in Rural Uganda. *BMC Public Health*, 18(1).

Dral, A.A., Tolani, M.R., Smet, E., & Van Luijn, A., 2018. Factors Influencing Male Involvement in Family Planning in Ntchisi District, Malawi: A Qualitative Study. *African Journal of Reproductive Health,* 22(4).

Hameed, W., Azmat, S.K., Ali, M., Sheikh, M.I., Abbas, G., Temmerman, M., & Avan, B.I., 2014. Women's Empowerment and Contraceptive Use: The Role of Independent Versus Couples' Decision-Making, from a Lower Middle Income Country Perspective. *PLoS ONE*, 9(8).

Idris, H., 2019. Factors Affecting the Use of Contraceptive in Indonesia: Analysis from the National Socioeconomic Survey (Susenas). *Jurnal Kesehatan Masyarakat*, 15(1).

Irawaty, D., & Gayatri, M., 2021. Exploring Media Influence On Contraceptive Use Among Indonesian Couples. *Jurnal Kesehatan Masyarakat*, 7(2).

Kabagenyi, A., Jennings, L., Reid, A., Nalwadda, G., Ntozi, J., & Atuyambe, L., 2014. 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. *Reproductive Health*, 11(21).

Kabagenyi, A., Ndugga, P., Wandera, S.O., & Kwagala, B., 2014. Modern Contraceptive Use Among Sexually Active Men in Uganda: Does Discussion with a Health Worker Matter? *BMC Public Health,* 14(1).

Kamal, M.M., Islam, M.S., Alam, M.S., & Hasssn, A.B.M.E., 2013. Determinants of Male Involvement in Family Planning and Reproductive Health in Bangladesh. *American Journal of Human Ecology,* 2(2).

Karim, S.I., Irfan, F., Saad, H., Alqhtani, M., Alsharhan, A., Alzhrani, A., Alhawas, F., Alatawi, S., Alassiri, M., & Ahmed, A.M.A., 2021. Men's Knowledge, Attitude, and Barriers Towards Emergency Contraception: A Facility Based Cross-Sectional Study at King Saud University Medical City. *PLoS ONE*, 16(4).

Kc, H., Shrestha, M., Pokharel, N., Niraula, S.R., Pyakurel, P., & Parajuli, S.B., 2021. Women's Empowerment for Abortion and Family Planning Decision Making Among Marginalized Women in Nepal: a Mixed Method Study. *Reproductive Health,* 18(1).

Kriel, Y., Milford, C., Cordero, J., Suleman, F., Beksinska, M., Steyn, P., & Smit, J.A., 2019. Male Partner Influence on Family Planning and Contraceptive Use: Perspectives from Community Members and Healthcare Providers. *BMC*, 16(89).

Manortey, S., & Missah, K., 2020. Determinants of Male Involvement in Family Planning Services: A Case Study in the Tema Metropolis, Ghana. *Open Access Library Journal*, 7(1).

Mustafa, G., Azmat, S.K., Hameed, W., Ali, S., Ishaque, M., Hussain, W., Ahmed, A., & Munroe, E., 2015. Family Planning Knowledge, Attitude and Practices Among Married Men and Women in Rural Areas of Pakistan. *Internatoinal Journal of Reproductive Medicine*, 2015, pp.190520.

Ochako, R., Temmerman, M., Mbondo, M., & Askew, I., 2017. Determinants of Modern Contraceptive Use Among Sexually Active Men in Kenya. *Reproductive Health*, 14(1).

Okon, E., Ezukwa, O., Elemi, A., & Charles, N., 2019. Knowledge, Perception and Involvement of Men in Family Planning in Rural Communities of Cross River State, Nigeria. *Journal of Medical Science And Clinical Research*, 7(2).

Peter, E., & Chinyere, A., 2015. Gender Inequality in Reproductive Health Services and Sustainable Development in Nigeria: A Theoretical Analysis. *International Journal of Sociology and Anthropology*, 7(2).

Sait, M., Aljarbou, A., Almannie, R., & Binsaleh, S., 2021. Knowledge, Attitudes, and Perception Patterns of Contraception Methods: Cross-Sectional Study Among Saudi Males. *Urology Annals,* 13(3).

Shaweno, T., & Kura, Z., 2020. Determinants of Modern Contraceptive Use Among Sexually Active Men in Ethiopia; Using EDHS 2016 National Survey. *Contraception and Reproductive Medicine*, 5(5).

Thummalachetty, N., Mathur, S., Mullinax, M., Decosta, K., Nakyanjo, N., Lutalo, T., Brahmbhatt, H., & Santelli, J., 2017. Contraceptive Knowledge, Perceptions, and Concerns Among Men in Uganda. *BMC Public Health*, 17(792).

Tilahun, T., Coene, G., Luchters, S., Kassahun, W., Leye, E., Temmerman, M., & Degomme, O., 2013. Family Planning Knowledge, Attitude and Practice among Married Couples in Jimma Zone, Ethiopia. *PLoS ONE,* 8(4).

Traore, F., Poda, G.G., Berthe, H., & Nebie, O., 2021. Perception and Involvement of Men in the Family Planning of Their Spouses in the Communes of Bamako, Mali. *Journal of Community Medicine and Public Health Reports,* 2(6).

Tuloro, T., Deressa, W., Ali, A., & Davey, G., 2009. The Role of Men in Contraceptive Use and Fertility Preference in Hossana Town, Southern Ethiopia. *Ethiopian Journal of Health Developmen*t, 20(3).

United Nations., 2019. Contraceptive Use by Method 2019: Data Booklet. *United Nations.* United Nations.

White, A.L., Davis, R.E., Billings, D.L., & Mann, E.S., 2020. Men's Vasectomy Knowledge, Attitudes, and Information-Seeking Behaviors in the Southern United States: Results From an Exploratory Survey. *American Journal of Men's Health*, 14(4).

WHO., 2019. Contraception. *WHO*.