Effectiveness of an educational counselling program in improving husbands' knowledge, awareness, attitudes, and intention to participate with wife in family planning

Aziza M. Abozied [(1)], Fatma A. Oraby [(2)], Merfat Amin Elzehri [(3)], Samar Ahmed Mahmoud [(4)]

(1) Assist. Prof. of Community Health Nursing,Beni-Suef University. Draziza55@gmal.com - orcid.org\0000-0001-6971-988X:// http-Egypt .
(2) Lecturer Obstetrics Nursing,and Gynecology Faculty of Nursing-Misr University for Science and Technology.
(3) PHD of Woman Health and Midwifery Nursing, Technical institute of Nursing, Mansoura University Egypt & Assist.prof.of Child bearing family College of Applied Medical Science, Taibahu University.
(4) Lecturer of Community Health Nursing. Aswan University Egypt ,Currently in Faculty of Applied Medical Science,AL Baha University Yahmed.eg84@yahoo.com. https://orcid.org/ 0000-0002-3040-1230.

Corresponding Author's: Draziza55@gmail.com.

Abstract

Background: Egypt is faced with a major challenge with over-population. The burden of family planning and use of contraception have always fallen on women, with undermining the role of men. ***Aim of the study***: To assess the effectiveness of an educational FP counselling program in improving husband's related knowledge, awareness, attitudes, and intention to participate with wife in FP. ***Participants and methods***: This quasi-experimental study was conducted in urban and rural household from community-dwelling in Beni-Suef city and suburbs on 110 husbands. An interview questionnaire covering participant's demographic characteristics, knowledge, sources of information, attitudes towards FP, and the intention to participate with wife in FP, and related barriers. The fieldwork was executed through assessment, planning, implementation, and evaluation phases. ***Results***: Husbands median age was 35 years; 47.3% had university education. Post-intervention knowledge demonstrated statistically significant improvements in all areas ($p<0.001$); 73.6% had total satisfactory knowledge. Statistically significant improvements in attitudes were shown after the intervention. The multivariate analysis identified the study intervention as the main positive predictor of husbands' knowledge score. The intervention increased husbands' intention to participate in FP with wife by two-folds (OR=2.012). ***Conclusion and recommendations***: The educational counseling program is successful in improving husband's knowledge and attitudes. It is recommended to implement this program in various healthcare settings. Further research is proposed to examine the effectiveness of such interventions involving husbands and wives together.

Keywords: Counselling program, Husbands, Knowledge, Attitudes, Iintention to participate, Family planning

Introduction

The problem of over-population is a universal challenge affecting all countries, and particularly the developing and under-privileged communities due to depletion of the natural resources thus jeopardizing the existence of human life given its effect on food products whose demand is expected by 70% by 2050 ***(Bazinet, 2021)***. According to the World Population Prospects 2019, it is expected that the world population will rise by 2 billion in the coming three decades, reaching 9.7 billion by 2050 ***(Lynne and Robert (2018)***. This would hinder the accomplishment of the Sustainable Development Goals (SDGs) ***(Duminy et al., 2021)***.

Egypt is faced with a major challenge with over-population. It is listed among the nine countries with expected population growth exceeding one-half of the global projected population growth between 2020 and 2050. Moreover, although the global fertility rate dropped from 3.2 births per woman in year 1990 down to 2.5 in year 2019, the rate in Egypt is still as high as 3.2 births per woman in 2020, exceeding the global average ***(Knoema, 2020)***.

Family Planning (FP) is the main strategy that should be adopted in order to control the rapid population growth. The use of contraceptive methods has recently shown marked in many of the developing countries, yet it still remains suboptimal ***(Roy and Gralki,***

2019). A main reason underlying this is the prevailing myths and misconceptions mostly related to falsely attributed side effects and negative impact on future fertility. These are mainly due to lack of knowledge as well as societal negative influences ***(Kaur and Blumenthal, 2021)***.

The burden of family planning and use of contraception have always fallen on women, with undermining the role of men. However, women in developing countries are often deprived from their decision-making rights in this respect, particularly in rural communities and patriarchal societies ***(Ruane et al., 2019)***. Thus, husbands are often less concerned with family planning and yet they retain the rights of deciding whether their wives use contraception or not ***(Ruane et al., 2020)***. The situation witnessed some changes since the International Conference on Population and Development (ICPD), with more participation of men in FP ***(Assefa et al., 2021)***. This is of major importance in addressing the problem of rapid population growth since man are often the main decision makers and thus have a major role in the practice of FP ***(Aristide et al., 2020)***. Thus, men need more motivation to share in FP ***(Döner and Şahin, 2021)*** in order that the couple reaches to joint decisions ***(Anbesu et al., 2022)***.

Significance of the study

The problem of rapid population growth is a major concern in Egypt hindering all economic development efforts. Despite the major role of husbands in decision-making, their involvement and participation with their wives in the process of family planning remain suboptimal. Moreover, there is a paucity of research addressing this men's important role and the underlying factors that need to be changed. Hence, this study is an attempt to test an intervention aimed at improving husbands' participation in FP through modulating their knowledge and attitudes.

Aim of the study:

To assess the effectiveness of an educational FP counselling program in improving husband's related knowledge, awareness, attitudes, and intention to participate with wife in FP.

Hypothesis:

The implementation an educational FP counselling program will lead to significant improvements in husband's related knowledge, awareness, attitudes, and intention to participate with wife in FP.

Participants and Methods

Study design: An open-label quasi-experimental study design with pre-post assessment was used in carrying the study.

Setting: The study was conducted in urban and rural household from community-dwelling in Beni-Suef city and suburbs.

Participants: Men in the study settings were eligible for participation in the study with the only inclusion criterion of being married for at least one year. The sample size was calculated to demonstrate improvements in husbands' knowledge, awareness, attitudes, and intention to participate with wife in FP with moderate effect size (Odds Ratio 2.4) at 95% level of confidence and 80% power. Using the Open-Epi software package, the required sample size was 95. It was increased to 110 to compensate for an expected dropout rate of about 10%. A convenience non-probability sampling technique was used to recruit the study sample.

Data collection tool: An interview questionnaire form was used to collect data. It was designed by the researchers based on related literature ***(Wheldon, 2018; WHO, 2018; United Nations, 2020)***. It consisted of the following parts.

Part I: This was for participant's socio-demographic characteristics such as age, education, job status, place of residence, income, wife's job, marriage duration and number of children, and family/household type.

Part II: This included questions about the following:

- Knowledge about FP aim, methods for men, and counseling definition and importance. This included a series of True/False questions. For scoring, a correct answer was scored one point and the incorrect zero. The scores of each area of knowledge as well as the total

questionnaire were summed and converted into percent scores. The knowledge was considered satisfactory if the percent score was 60% or higher and unsatisfactory if less.

- The various sources of information.
- The types of family planning methods known (both for men and women). The number of known methods was calculated and the percentage of those knowing at least one-method was computed.
- Attitudes towards FP regarding religion, preference, husband permission, and aborting unplanned pregnancy.
- Questions about the intention to participate with wife in FP, and the perception of related barriers.

Validation and pilot testing: The tool was reviewed for face and content validation by three experts in community health nursing and two in nursing midwifery. It was finalized based on their comments and suggestions. It was then pilot tested on 12 men from the study settings. Since no modifications were done, these were included in the study sample.

Fieldwork: The fieldwork was executed through assessment, planning, implementation, and evaluation phases.

Assessment phase: During this phase the study sample was recruited. The data collection forms were used to interview the participants. This was done individually, and privacy was ensured. The researcher trained Community Health Nursing (CHN) master degree students at the 2nd level specialty during their CHN training course as a training project in the administration of the interview. They were tested and provided feedback on their performance before actual data collection. Each postgraduate student was assigned five participants. The data collected constituted the pre-intervention baseline data for comparison with post-intervention data.

***Planning phase*:** In this phase, the pre-intervention data were analyzed. They were used in the preparation of the educational counseling program to be tailored to participants' needs and with the help of pertinent literature. Its aim was to improve participants' knowledge, awareness, attitudes, intentions, and perception of barriers regarding their participation with their wives in FP. The program covered various areas of family planning and the importance of participation of husband with wife in it. The researcher developed an illustrated booklet in simple Arabic language to help participants to retain knowledge. The researcher trained postgraduate nursing students in the administration of the program in Training of Trainers (TOT) sessions. Each postgraduate student implemented the program on the assigned five participants.

***Implementation phase*:** The trained postgraduate students implemented the educational counseling program. Each session lasted 45-60 minutes and it was arranged during participant's preferred time of the day. The sessions were interactive with ample time given for and brain storming, questioning, and discussions. Audiovisual aids as powerpoint data-show and videoclips using smart phone were used in short presentations with demonstrations of FP methods.

***Evaluation phase*:** Upon completion of the implementation of the intervention, the trained postgraduate students re-interviewed the participants using the same data collection form utilized in the pre-test.

Administrative and ethical considerations: All necessary permissions to conduct the study were secured using official channels. The study protocol was approved by the research ethics committee in the Faculty of Nursing, Beni-Suef University. All participants were briefed about the aim of the study and its maneuvers. They were informed about their rights to refuse participation or withdraw at any time. Total confidentiality was ensured.

Statistical analysis: This was carried out on SPSS 20 software package. For the comparison of quantitative data, Mann-Whitney test was utilized, while categorical data were compared using chi-squared test. Spearman rank correlation analyses were applied for the inter-relationships between quantitative and ranked variables. The predictors of the knowledge score were identified through multiple linear regression analysis. As for the predictors of participants'

attitude, intention to participate, and perception of barriers, they were identified through logistic regression analysis.

Results

One-hundred and ten husbands participated in the study **(Table 1).** Their median age was 35 years. Slightly less than half of them (47.3%) had university education, and the majority were working, living in rural areas, and had sufficient income. Approximately three-fifth of their wives were working (58.2%). Their marriage duration ranged between one and 30 years, and their median number of children was 2. About one-third of them (30.9%) were living in shared homes, i.e., extended family.

As presented in **Table 2,** husband's pre-intervention knowledge of family planning (FP) was generally unsatisfactory, particularly regarding counseling definition and its importance. In total, only 13.5% of them had satisfactory knowledge. At the post-intervention phase, their knowledge demonstrated statistically significant improvements in all areas ($p<0.001$), reaching 90.9% regarding the knowledge of the methods for men. In total, 73.6% had satisfactory knowledge with statistically significant improvement ($p<0.001$). As regards their reported sources of information, the least mentioned were the physicians and the newspapers/magazines both before and after the intervention. Meanwhile, MCH centers as a source significantly increased from 20% to 40% after the intervention ($p=0.001$). Additionally, the mean number of sources significantly increased from 1.2 to 1.5 ($p<0.001$).

As regards husbands' awareness of FP methods, **Table 3** indicates that their awareness of the various methods was generally low. This was particularly more evident regarding the methods for women. The table indicates statistically significant improvements in their awareness of almost all methods. In total, 21.8% of them were not aware of any contraceptive method before the intervention, and this decreased to 2.7% at the post-intervention phase ($p<0.001$).

Table 4 demonstrates statistically significant changes in husbands' attitudes after the intervention. Thus, those considering it forbidden by religion decreased from 27.3% to 10.9%, and those who do not prefer it decreased from 61.8% to 26.4%. Only two (1.8%) agreed about asking wife to abort unplanned pregnancy at the pre-intervention phase, and this decreased to one (0.9%). The table also indicates a statistically significant increase in those who intend to participate in FP with their wives from 52.7% to 76.4% ($p<0.001$), and a decrease of those perceiving FP barriers from 75.5% to 28.2% ($p<0.001$).

Table 5 points to a statistically significant weak negative correlation between husbands' age and their pre- intervention knowledge score ($r=-0.244$). Meanwhile, their post-intervention and total knowledge scores correlated positively with the number of contraceptive methods known and with the number of sources of information.

The multivariate analysis **(Table 6)** indicates that the study intervention was the main significant independent positive predictor of husbands' knowledge score, in addition to their educational level. The model explains 46% of the change in this score as indicated by the r-square value.

Concerning husband's awareness of FP, the logistic regression analysis **(Table 7)** indicates that the intervention increased their awareness six-folds (OR=6.086). In addition, the educational level, income, and the number of information sources were significant positive predictors of husbands' awareness. The table also indicates that the intervention increased husbands' intention to participate in FP with wife by two-folds (OR=2.012). The marriage years, working status, and awareness of FP were additional significant positive predictors of husbands' intention. Conversely, husbands' age and living in shared homes were negative predictors with ORs <1.0. As for husband's perception of FP barriers, the table shows that the intervention decreased it about six-folds (OR=0.184). In addition, working status, income, and the awareness of FP were significant negative predictors with ORs <1.0.

Table 1: Demographic characteristics of husbands and wives in the study sample (n=110)

	Frequency	Percent
Husband age:		
<50	54	49.1
50+	56	50.9
Range	24-70	
Mean±SD	35.1±8.0	
Median	35.0	
Education:		
None	10	9.1
Basic/secondary	48	43.6
University	52	47.3
Job status:		
Not working	5	4.5
Working	105	95.5
Residence:		
Urban	26	23.6
Rural	84	76.4
Income:		
Insufficient	17	15.5
Sufficient	93	84.5
Wife job status:		
Housewife	46	41.8
Working	64	58.2
Marriage years:		
<5	32	29.1
5+	78	70.9
Range	1-30	
Mean±SD	8.8±6.8	
Median	7.0	
Children:		
1	22	20.0
2-3	71	64.5
4+	17	15.5
Range	1-10	
Mean±SD	2.5±1.4	
Median	2.0	
Home shared (extended family)	34	30.9

(@) Not mutually exclusive

Table 2: Pre-post-intervention knowledge of husbands about family planning and information sources

	Time				X^2 test	p-value
	Pre		Post			
	No.	%	No.	%		
Knowledge of FP:						
Aim:						
Satisfactory	55	50.0	97	88.2		
Unsatisfactory	55	50.0	13	11.8	37.55	<0.001*
Methods for men:						
Satisfactory	65	59.1	100	90.9		
Unsatisfactory	45	40.9	10	9.1	29.70	<0.001*
Counseling definition:						
Satisfactory	22	20.0	79	71.8		
Unsatisfactory	88	80.0	31	28.2	59.47	<0.001*
Counseling importance:						
Satisfactory	33	30.0	88	80.0		
Unsatisfactory	77	70.0	22	20.0	55.56	<0.001*
Total knowledge:						
Satisfactory	15	13.6	81	73.6		
Unsatisfactory	95	86.4	29	26.4	80.50	<0.001*
Sources of information:						
Media:						
No	49	44.5	45	40.9		
Yes	61	55.5	65	59.1	0.30	0.59
MCH centers:						
No	88	80.0	65	59.1		
Yes	22	20.0	45	40.9	11.35	0.001*
Friends:						
No	80	72.7	77	70.0		
Yes	30	27.3	33	30.0	0.20	0.65
Newspapers/magazines:						
No	101	91.8	104	94.5		
Yes	9	8.2	6	5.5	0.64	0.42
Physician:						
No	102	92.7	93	84.5		
Yes	8	7.3	17	15.5	3.66	0.06
No. of sources:						
Mean±SD	1.2±0.5		1.5±0.7			
Median	1.00		1.00		U=17.43	<0.001*

(*) Statistically significant at p<0.05

Table 3: Pre-post-intervention husbands' awareness of family planning methods

Types of contraceptives known	Time				X^2 test	p-value
	Pre		Post			
	No.	%	No.	%		
Condom	55	50.0	84	76.4	16.43	<0.001*
External ejaculation	46	41.8	75	68.2	15.45	<0.001*
Pills	28	25.5	30	27.3	0.09	0.76
Breastfeeding	20	18.2	35	31.8	5.45	0.02*
Safe period	10	9.1	35	31.8	17.46	<0.001*
Abstinence	5	4.5	13	11.8	3.87	0.049*
Hormonal injections	5	4.5	12	10.9	3.12	0.08
Ligation (men)	3	2.7	17	15.5	10.78	0.001*
Hormonal implants	5	4.5	7	6.4	0.35	0.55
Total awareness of FP methods:						
None	24	21.8	3	2.7		
One or more	86	78.2	107	97.3	18.62	<0.001*
Range						
Mean±SD	1.6±1.6		2.8±2.0		U=25.56	<0.001*
Median	1.00		2.00			

(*) Statistically significant at p<0.05

Table 4: Pre-post-intervention husbands' attitudes towards family planning, perception of family planning barriers and intention to participate

	Time				X^2 test	p-value
	Pre		Post			
	No.	%	No.	%		
Attitudes:						
FP and religion:						
Forbidden	30	27.3	12	10.9		
Allowed	80	72.7	98	89.1	9.53	0.002*
Prefer FP in own family:						
No	68	61.8	29	26.4		
Yes	42	38.2	81	73.6	28.05	<0.001*
Wife must have husband permission for FP:						
No	30	27.3	18	16.4		
Yes	80	72.7	92	83.6	3.84	0.050
Ask wife to abort unplanned pregnancy:						
No	96	87.3	100	90.9		
Uncertain	12	10.9	9	8.2	0.84	0.66
Yes	2	1.8	1	0.9		
Intend to participate in FP with wife:						
No	52	47.3	26	23.6		
Yes	58	52.7	84	76.4	13.43	<0.001*
Perceive barriers for FP:						
No	27	24.5	79	71.8		
Yes	83	75.5	31	28.2	49.23	<0.001*

(*) Statistically significant at p<0.05

Table 5: Correlation between husbands' knowledge scores and their characteristics throughout intervention

	Spearman's rank correlation coefficient		
	Pre (n=110)	Post (n=110)	Total (n=220)
Husband age	-.244*	.061	-.074
Marriage years	-.100	.071	-.011
No. of children	-.098	-.042	-.056
Educational level	.131	.160	.130
Income	.014	-.001	.025
No. of CC methods known	.126	.292**	.383**
No. of information sources	.086	.194*	.273**

(*) Statistically significant at p<0.05 *(**) Statistically significant at p<0.01*

Table 6: Best fitting multiple linear regression model for husbands' knowledge score

	Unstandardized Coefficients		Standardized Coefficients	t-test	p-value	95% Confidence Interval for B	
	B	Std. Error				Lower	Upper
Constant	-3.18	0.61		-5.238	<0.001	-4.38	-1.98
Intervention	3.77	0.28	0.66	13.252	<0.001	3.21	4.33
Educational level	0.38	0.13	0.15	2.964	0.003	0.13	0.63

r-square=0.46
Model ANOVA: F=92.20, p<0.001
Variables entered and excluded: husband age, job, wife job, residence, income, marriage years, children, sources of information

Table 7: Best fitting multiple logistic regression model for husbands' awareness of family planning

	Wald	Df	P	OR	95.0% CI for OR	
					Upper	Lower
Husbands' awareness of family planning						
Constant	37.489	1	<0.001	.004		
Intervention	31.066	1	<0.001	6.086	3.225	11.486
Educational level	4.488	1	.034	1.394	1.025	1.896
Income	3.306	1	.069	1.536	.967	2.439
No. of information sources	9.959	1	.002	2.407	1.395	4.154
Nagelkerke R Square: 0.345						
Hosmer and Lemeshow Test: p=0.848						
Omnibus Tests of Model Coefficients: p<0.001						
Variables entered on step 1: intervention, age, marriage years, children, residence, educational level, job, wife job, income, shared home, No. of information sources, aware of FP, knowledge score						
Husbands' intention for participation in family planning						
Constant	.120	1	.730	1.659		
Intervention	3.768	1	.052	2.012	.993	4.075
Husband age	4.501	1	.034	.903	.822	.992
Marriage years	7.036	1	.008	1.178	1.044	1.329
Working	5.911	1	.015	8.169	1.503	44.412
Home shared	10.018	1	.002	.327	.163	.653
Aware of FP	13.438	1	<0.001	3.832	1.869	7.859
Nagelkerke R Square: 0.317						
Hosmer and Lemeshow Test: p=0.537						
Omnibus Tests of Model Coefficients: p<0.001						
Variables entered on step 1: intervention, age, marriage years, children, residence, educational level, job, wife job, income, No. of information sources, aware of FP, knowledge score						
Husbands' perception of family planning barriers						
Constant	25.186	1	<0.001	382.888		
Intervention	24.416	1	<0.001	0.184	0.094	0.360
Working	3.833	1	<0.001	0.168	0.028	1.002
Income	3.721	1	<0.001	0.619	0.381	1.008
Aware of FP	18.717	1	<0.001	0.228	0.117	0.446
Nagelkerke R Square: 0.411						
Hosmer and Lemeshow Test: p=0.972						
Omnibus Tests of Model Coefficients: p<0.001						
Variables entered on step 1: intervention, age, marriage years, children, residence, educational level, job, wife job, income, shared home, No. of information sources, aware of FP, knowledge score						

Discussion

Husband participation in family planning (PF) with wife is of utmost importance. The study findings indicate generally deficient knowledge and low awareness as well as negative attitudes among husbands towards their role in FP. The implementation of an educational counseling program proved effective in improving their knowledge, awareness, attitudes, and intentions to participate, thus leading to acceptance of the set research hypothesis.

According to the present study results, husbands' knowledge of FP was deficient as measured before implementation of the study intervention. Thus, around one-half of them knew about its aim and methods, and very few of them were knowledgeable about related counseling. The findings point to deficient performance of the health care providers in their health educational roles. This is confirmed by that the sources of information reported by these participants were mainly media and to much lesser extent the MCH centers and physicians. The role of media as educational sources in FP was demonstrated in a study of the challenges to family planning in India ***(Scott et al., 2021)***.

The implementation of the present study intervention led to significant improvements in their knowledge. This was noticed in all knowledge areas tested. These results indicate the success of the educational counseling intervention, and this was confirmed in the multivariate regression analysis results where

the study intervention was identified as the main positive predictor of their knowledge score. This success might be attributed to the intervention's focusing on applied practical rather than theoretical knowledge. In congruence with this, a study in Tanzania reported significant improvements in participants' knowledge of FP following an educational intervention ***(Aristide et al., 2020)***.

Husbands' educational level also turned to be an independent significant positive predictor of their knowledge score. This is quite plausible given the positive impact of education on individuals' health behaviors. A similar positive impact of husbands' education on their participation in FP with their wives was reported in a study in Ethiopia ***(Wondim et al., 2021)***. This positive effect of husband education was also demonstrated in a study in Uganda ***(Nuwasiima et al., 2021)***.

Moreover, husbands' utilization of the various information sources showed significant increases both in frequency as well as in the number of sources. Their utilization of the MCH centers demonstrated the highest increase. This would ensure their retention of the knowledge gained and updating their acquired information. In congruence with this, a study of the impact of media and various sources of information on husbands' participation in FP in Ghana found a significant association between exposure to such media and their knowledge and practice ***(Ahinkorah et al., 2021)***.

The current study has also addressed husbands' awareness of FP methods. Their awareness of the various methods was generally low, especially for women's methods. The implementation of the educational counseling intervention led to improvements, but this was most remarkable for men's methods such as condom and external ejaculation. The multivariate analysis revealed a significant effect of the intervention, with a six-folds increase effect. Moreover, the number of information sources were shown to be significant independent positive predictors of husbands' awareness in the current study, which is an indirect positive effect of the intervention. In agreement with this, a study in Niger reported low awareness of husbands about the various methods of FP and contraception ***(Fleming et al., 2020)***. Similar findings were also reported among males in Iran ***(Bagheri et al., 2021)***.

As regards husbands' attitudes towards FP and their participatory role in it, more than one-fourth of them were still convinced that religion forbids FP before the intervention, and these reduced to around one-tenth after the intervention. This change is of major importance since this misconception underlies the negative attitude towards FP among a major sector of the population. Also, those who do not prefer FP in their families reduced from about two-thirds to around one-fourth. In agreement with this, a KAP study of Saudi males' perception of contraception reported that more than two-thirds of them viewed it was not forbidden by Islam ***(Sait et al., 2021)***. On the other hand, a study in Ethiopia found that the practice of FP in general, and husbands' participation in FP in particular were very low, and this was attributed to religious factors ***(Anbesu et al., 2022)***. Meanwhile, as in the current study, a study in India demonstrated a significant positive impact of an educational intervention on husbands' attitudes towards FP and their related roles ***(Fleming et al., 2018)***.

Before implementation of the current study intervention, the husbands who expressed their intention to participate in FP with their wives constituted around one half of the sample. This proportion is in the middle of the range of males willing to participate in FP and use contraceptive methods revealed in a systematic review; the reported range was from 13.6% to 83.0% in this review ***(Reynolds-Wright et al., 2021)***.

Meanwhile, at the post-intervention phase of the present study, around three-fourth of husbands were having the intention to participate in FP with their wives. The effect of the intervention on husbands' intention was confirmed through multivariate analysis where the intervention had a doubling effect on the probability of such intention. Additionally, husband's increased awareness had a positive impact on their intention to participate, which is another indirect positive effect of the intervention. In line with these present study results, a study in Ethiopia found that a very

low percentage of husbands (12.5%) were participating in FP with their wives ***(Wondim et al., 2021)***.

Another important finding of the present study was the negative impact of living in shared home or in extended family on husbands' participation in FP with their wives. This might be explained by the possible negative influences of other big family members, particularly the old age parents and/or in-laws due to their traditional negative attitudes towards FP and their tendency to more authoritative masculine role. In congruence with this, a study in Malaysia found that husbands with traditional authoritative roles tended to be less participative in FP with their wives ***(Endut et al., 2021)***. Furthermore, the negative impact of the in-laws on the practice of FP was demonstrated in a study in India ***(Dixit et al. 2021)***.

An important factor hindering participation in FP is the perception of related barriers. These might include physical, psychological, as well as social barriers. In the present study, around three-fourth of the participant husbands were having high perception of such barriers, which could underlie their low intention to participate in FP. A similar high perception of barriers limiting the use of contraception was reported in a study in Nepal ***(Bhatt et al., 2021)***.

At the post-intervention phase, of the present study, husbands' perception of barriers decreased to around one-fourth of the study sample. This positive effect of the intervention was reaffirmed through multivariate analysis, where the intervention had a decreasing effect on the perception of barriers. Also, the intervention acted indirectly on the perception of barriers through increasing husband's awareness, which contributed to decreased perception of barriers. In agreement with this, a randomized clinical trial in Ethiopia demonstrated the effectiveness of an educational intervention on fostering the utilization of contraception and the decreases of related barriers ***(Alemayehu et al., 2021)***.

Conclusion and Recommendations

Husbands' lack knowledge, awareness, attitudes, and intention to share with their wives in FP. The educational counseling program is successful in improving all these parameters. It is recommended to implement this program in various healthcare settings. The role of healthcare providers in promulgating FP needs to be boosted. Further research is proposed to examine the effectiveness of such interventions involving husbands and wives together.

References

Ahinkorah B.O., Hagan J.E., Jr. I.D., Seidu ID A-A, Budu E., Mensah G.Y., Adu C., and Schack T. (2021): Understanding the association between exposure to family planning messages and consistent condom use among never married men in Ghana. PLOS ONE; https://doi.org/10.1371/journal.pone.0255325 August 24, 2021

Alemayehu M., Medhanyie A.A., Reed E., and Bezabih A.M. (2021): Use of community-based interventions to promote family planning use among pastoralist women in Ethiopia: cluster randomized controlled trial. BMC Womens Health.;21(1):305. doi: 10.1186/s12905-021-01434-x. PMID:

Anbesu E.W., Aychiluhm S.B., and Kahsay Z.H. (2022): Male involvement in family planning use and its determinants in Ethiopia: a systematic review and meta-analysis protocol. Systematic Reviews; 11(1): 19. https://doi.org/10.1186/s13643-022-01891-x

Aristide C., Mwakisole A., Mwakisole N., Emmanuel M., Laizer E., Kihunrwa A., Downs D., Wamoyi J., and Downs J. (2020): Design and pilot testing of a churchbased intervention to address interpersonal and intrapersonal barriers to uptake of family planning in rural Tanzania: a qualitative implementation study. BMJ Sex Reprod Health; 46(3):226–233

Assefa L., Shasho Z., Kasaye H.K., Tesa E., Turi E., and Fekadu G. (2021): Men's involvement in family planning service utilization among married men in

Kondala district, western Ethiopia: a community-based comparative cross-sectional study. Contracept Reprod Med.;6(1):16. doi: 10.1186/s40834-021-00160-x. PMID: 34059155; PMCID: PMC 8167972.

Bagheri R., Shuib R., Karupiah P., Farvid P., and Khalajabadi-Farahani F. (2021): A qualitative examination of men's participation in contraceptive use and its barriers in Tehran. J Biosoc Sci.;53(6):868-886. doi: 10.1017/S0021932020000589. Epub 2020 Oct 14. PMID: 33050964.

Bazinet L. (2021): Special Issue "Membrane Technologies for Sustainable Biofood Production Lines". Membranes (Basel).;11(7):485. doi: 10.3390/membranes11070485. PMID: 34209656; PMCID: PMC8 305472.

Bhatt N., Bhatt B., Neupane B., Karki A., Bhatta T., Thapa J., Basnet L.B., and Budhathoki S.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):e0252184. doi: 10.1371/journal.pone.0252184. PMID: 34038439; PMCID: PMC8153486.

Dixit A., Bhan N., Benmarhnia T., Reed E., Kiene M.S., Silverman J., and Raj A. (2021): The association between early in marriage fertility pressure from in-laws' and family planning behaviors, among married adolescent girls in Bihar and Uttar Pradesh, India. Reprod Health.; 18: 60. Published online 2021 Mar 9. doi: 10.1186/s12978-021-01116-9/ PMCID: PMC7941884. PMID: 33750403

Döner P., and Şahin K. (2021): "This is not my decision; I have no alternative". Perceptions and experiences of marriage age and family planning among Syrian women and men: a primary care study. Prim Health Care Res Dev.;22:e25. doi: 10.1017/S1463423621000220. PMID: 34092278; PMCID: PMC8220343.

Duminy J., Cleland J., Harpham T., Montgomery M.R., Parnell S., and Speizer I.S. (2021): Urban Family Planning in Low- and Middle-Income Countries: A Critical Scoping Review. Front Glob Womens Health.; 2:749636. doi: 10.3389/fgwh.2021.749636. PMID: 34816250; PMCID: PMC8593933.

Endut N., Bagheri R., Azmawati A.A., Hashim I.H.M., Selamat N.H., and Mohajer L. (2021): The influence of men's masculine gender-role attitude and behaviour on sexual relationships and reproductive health in Malaysia: A cross-sectional study. Noraida Endut et al. Int J Reprod Biomed. 2021. Free PMC article Int J Reprod Biomed.;19(7):663-670.doi: 10.18502/ijrm.v19i7.9477. eCollection 2021 Jul.

Fleming P.J., Shakya H., Farron M., Brooks M.I., Lauro G., Levtov R.G., Boyce S.C., Aliou S., and Silverman J.G. (2020): Knowledge, attitudes, and practices related to family planning and gender equity among husbands of adolescent girls in Niger Global Public Health, An International Journal for Research, Policy and Practice ISSN: 1744-1692 (Print) 1744-1706 (Online) Journal homepage: https://www.tandfonline.com/loi/rgph20.

Fleming P.J., Silverman J., Ghule M., Ritter J., Battala M., Velhal G., Nair S., Dasgupta A., Donta B., and Saggurti N. (2018): Can a Gender Equity and Family Planning Intervention for Men Change Teir Gender Ideology? Results from the CHARM Intervention in Rural India. Stud Fam Plann; 49(1):41–56.

Kaur S., and Blumenthal P.D. (2021): Global myth busting in family planning. Curr Opin Obstet Gynecol.;33(6):458-462. doi: 10.1097/GCO.0000000000000757. PMID: 34747882.

Knoema (2020): https://knoema. com/ atlas/ Egypt/Fertility-rate#:~:text= In%202020%2C%20fertility%20rate%20 for,births%20per%20woman%20in%202 020.

Lynne G., and Robert E., (2018): "Family Planning as a Contributor to Environmental Sustainability: Weighing the Evidence," Current Opinions in Obstetrics and Gynecology; 30(6): 25-431. https://journals.lww.com/co-obgyn/ Citation/2018/12000/Family_ planning_as_a_contributor_to_ environ mental.15.aspx.

Nuwasiima A., Watsemba A., Eyapu A., Kaddu P., and Loiseau J. (2021): Sex differences in family planning knowledge, attitudes, and use in Uganda. Contracept Reprod Med.;6(1):23. doi: 10.1186/s40834-021-00166-5. PMID: 34332633; PMCID: PMC8325843.

Reynolds-Wright J.J., Cameron N.J., and Anderson R.A. (2021): Will Men Use Novel Male Contraceptive Methods and Will Women Trust Them? A Systematic Review. J Sex Res.;58(7):838-849. doi: 10.1080/00224499 .2021.1905764. Epub 2021 Apr 26. PMID: 33900134.

Roy S., and Gralki P. (2019): demand equity: 5 Ways Family Planning Is Crucial to Gender Equality. Global citizen; world population day, family planning. https://www.globalcitizen.org/en/content/ world-population-day-2019-family-planning/

Ruane-McAteer E., Amin A., Hanratty J., Lynn F., Corbijn van Willenswaard K., Reid E., Khosla R., and Lohan M.(2019): Interventions addressing men, masculinities and gender equality in sexual and reproductive health and rights: an evidence and gap map and systematic review of reviews. BMJ Glob Health. ;4(5):e001634. doi: 10.1136/bmjgh-2019-001634. [PMC free article] [PubMed] [CrossRef] [Google Scholar]

Ruane-McAteer E., Gillespie K., Amin A., Aventin Á., Robinson M., Hanratty J., Khosla R., and Lohan M. (2020): Gender-transformative programming with men and boys to improve sexual and reproductive health and rights: a systematic review of intervention studies. BMJ Global Health. 2020. 10.1136/bmjgh-2020-002997. [PMC free article] [PubMed].

Sait M., Aljarbou A., Almannie R., and Binsaleh S. (2021): Knowledge, attitudes, and perception patterns of contraception methods: Cross-sectional study among Saudi males. Urol Ann.;13(3):243-253. doi: 10.4103/UA.UA_42_20. Epub 2021 Jul 14. PMID: 34421259; PMCID: PMC8343273.

Scott K., Ummer O., Shinde A., Sharma M., Yadav S., Jairath A., Purty N., Shah N., Mohan D., Chamberlain S., LeFevre A.E., Kilkari (2021): Impact Evaluation team. Another voice in the crowd: the challenge of changing family planning and child feeding practices through mHealth messaging in rural central India. BMJ Glob Health.;6(Suppl 5):e005868. doi: 10.1136/bmjgh-2021-005868. PMID: 34312156; PMCID: PMC8327813.

United Nations (2020): World Fertility and Family Planning 2020: Highlights (ST/ESA/SER.A/440). Department of Economic and Social Affairs Population Division. is available in electronic format on the Division's website at www.unpopulation.org.

Wheldon M. (2018): Methods for estimating and projecting key family planning indicators among all women of reproductive age. United Nations, Department of Economic and Social Affairs, Population Division, Technical Paper No. 2018/2.

WHO (2018): Family Planning: A Global Handbook for Providers (2018 edition). Baltimore and Geneva: CCP and WHO.

Wondim G., Degu G., Teka Y., and Diress G. (2021): Male Involvement in Family Planning Utilization and Associated Factors in Womberma District,Northern Ethiopia: Community-Based Cross-Sectional Study. Open Access Journal of Contraception downloaded; from https://www.dovepress.com/ by 154. 179. 85. 147 on 14-Aug-2021. 2020:11 197–207