

## **Knowledge, Attitude and Practice (KAP) Towards Modern Contraceptives Among Married Women of Reproductive Age in Mpwapwa District, Central Tanzania**

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**Abstract:** This study was undertaken in Mpwapwa District in Central Zone of Tanzania between July to August, 2009 to assess knowledge, attitude and practice towards modern contraceptives among married women of reproductive age (15-49 years). Specific objectives of the study were to ascertain knowledge and attitude towards modern contraceptives, to determine the extent of use of modern contraceptives and identify factors associated with current use of modern contraceptive in the study population. Study design involved a cross-sectional survey that involved 160 women randomly selected from eight villages with nearly equal number of respondents per village. Data from respondents were collected using a pre-tested semi-structured questionnaire. Furthermore, eight Focus Groups Discussions (FGDs), with one FGD per village were also carried out to collect qualitative information. Statistical Package for Social Sciences (SPSS) program version 12 was used to analyse quantitative data. Qualitative data were analysed using Content Analysis (CA). Results of this study revealed knowledge of modern contraceptives in a study population to be high. Furthermore, findings of this study indicated substantial proportion of respondents to have positive attitude towards modern contraceptives and hence more room for increasing modern contraceptive use in a study population. For example, half (50%) of respondent that were aware of modern contraceptives thought that benefits of modern contraceptives outweigh negative effects and 42% agreed that they could recommend use of modern contraceptive to a friend. However, despite presence of positive attitude towards modern contraceptives by a good number of women in a study population, negative attitude of husband towards modern contraceptives can be one of the obstacles for the success of campaigns to increase modern contraceptive use in the study area. Two- third (65.8%) of study participants indicated that their husband doesn't approve modern contraceptives. Regarding contraceptive prevalence rate in the target group (i.e., proportion currently use modern contraceptives), although there was some improvement compared to the past national averages, however, the obtained figure (25%) was far (too low) from the desired national target of 60%. Results for Binary Multiple Logistic Regression Analysis indicated that Likelihood (chances) of being current user of modern contraceptives by a woman increased significantly by having secondary education and higher (Odds ratio (OR) = 15.18,  $p < 0.05$ ), having higher number of living children (i.e., 4 and above) (OR = 19.68,  $p < 0.01$ ), spousal communication on modern contraceptives (OR = 1.84,  $p < 0.05$ ), woman participation in decision making regarding fertility in a family (OR = 19.40,  $p < 0.05$ ), husband approval of modern contraceptives (OR = 18.46,  $p < 0.01$ ) and having positive attitudes towards modern contraceptives (OR = 8.50,  $p < 0.05$ ) (i.e., thinking that benefits of modern contraceptives outweighs negative effects) compared to the counterparts. The Odds (chances) of being current user of modern contraceptive by a woman decreased by living more than 5 km from nearest health facility (OR = 0.67,  $p < 0.05$ ) and if had ever encountered side effects (OR = 0.44,  $p < 0.05$ ). Based on these findings recommendations for improving modern contraceptive use in a study population have been indicated.

**Key words:** Contraceptives, family planning, fertility, knowledge

### **INTRODUCTION**

High fertility rate and hence high population growth rate are among the major economic and social problems facing developing world including Tanzania. High

population growth rate has been associated with increased level of poverty (Dabral and Malik, 2004; Adanu *et al.*, 2009; Adiri *et al.*, 2011; Avidime *et al.*, 2010). This rests on inability of governments in these countries to adequately provide social services to the rapidly growing

population and shrinkage of resource base. Furthermore, high fertility rate has been associated with poor child and maternal health as well as increased risk of maternal mortality (UNFPA, 2008; Chipeta *et al.*, 2010; Woldemicael and Beaujot, 2011; Mathe *et al.*, 2011). To control fertility, the government of Tanzania had changed its population policy since early 1990s to allow sexually active persons to access modern family planning services (i.e., modern contraceptives) (URT, 2006). Despite the government efforts, until the mid 2000s fertility rate and contraceptive prevalence were still at unacceptable level. For example Demographic and Health Survey carried in the country between 2004-2005 indicated total fertility rate to be 5.6 and modern contraceptive prevalence rate among married women of reproductive age to be 20% and unmet need for contraceptives to be as high as 22%. Among others, factors that limited modern contraceptive uptake included myths, rumours and misinformation about modern contraceptives, low availability and poor access to services (Marchant *et al.*, 2004; URT, 2010). However, in recent years there had been an increased thrust on family planning campaigns in the country by both government and non- governmental organizations, which included among others, intensification family planning services in almost all health facilities including those in rural areas as well as rising awareness to the community on the benefits of family planning (URT, 2010). Since intensification of these campaigns, scanty information is available on current status of modern contraceptive use in most parts of the country specifically in rural areas as well as factors influencing their use. This information is important for more informed decisions on family planning campaigns in the country (Marchant *et al.*, 2004; Oye-Adeniran *et al.*, 2006; Adanu *et al.*, 2009). Therefore, the aim of this study was to assess knowledge, attitude and practice towards modern contraceptives among married women of reproductive age (15-49 years) in Central Zone of Tanzania by taking a case of Mpwapwa district. Specifically, the study intended to ascertain knowledge and attitude among married women of reproductive age towards modern contraceptives in the study area; to determine the extent of use of modern contraceptives by the target group; and to identify factors associated with current use of modern contraception by the target group in the study area.

## METHODOLOGY

**Study area:** This study was carried out in Mpwapwa district in Dodoma region, Central Tanzania. The district is among the six district of the region. It is located 120 km from Dodoma Region Headquarters. It lies between Latitudes 6°00" and 7°30" South of the Equator and between Longitude 35°45" and 37°00" East of Greenwich. The District covers a total area of 7,379 km<sup>2</sup> (18.1% of total area of Dodoma Region) (URT, 2009). The dominant

ethnic group is *Gogo* accounting for more than 50% of total population.

**Study design:** This study was carried out in the study area between July to August, 2010. The study involved a cross- sectional survey in eight 8 randomly selected villages from 4 randomly selected wards (i.e., two villages per ward) of Mpwapwa district covering all three divisions of the district (*Mpwapwa, Kibakwe and Rudi*). Villages involved in the study included *Ilole, Mwanakianga, Mazae, Kisokwe, Pwaga, Mungui, Chilendu and Mtamba*. A total of 160 married women of reproductive age (15-49 years) from 160 randomly chosen households (i.e., one individual per household) were involved in this study. Nearly equal number respondents were chosen from each village. During sampling, in case a household was found to have no married woman of reproductive age, a household was replaced by another nearby household chosen at random. Furthermore, if a household was found to have more than one married woman of reproductive age, only one woman chosen at random was considered for interview.

Furthermore, apart from questionnaire survey, 8 Focus Groups Discussions (FGDs), with one FGD per village were also carried out to collect qualitative information for the study and to verify responses from questionnaires. Number of FGD members per group varied between 8-10 married women of reproductive age. During data collection, informed verbal consent was directly asked from respondents before interview.

**Data analysis:** Data collected were verified, coded and then analyzed for descriptive statistics such as percentages using Statistical Package for Social Sciences (SPSS) program version 12.

The program was also used for inferential statistical analyses to test if there was significant association between current use of modern contraceptives by a woman (dependent variable) and social- demographic, fertility and attitudinal variables; as well as clinical side effects of modern contraceptives (independent variables). During inferential statistical analyses, bivariate analyses using Chi-square test were carried out to screen significant independent variables, which were then subjected to multivariate analysis using Binary Multiple Logistic Regression using a statistical model below to control for confounding effects (Kebede, 2006; Maria, 2007; Dibaba, 2008):

$$\ln\left(\frac{p}{1-p}\right) = \alpha + \sum_{i=1}^n \beta_i X_i$$

where, by  $p$  is a probability of being current user of modern contraceptives,  $\alpha$  and  $\beta$  are estimated regression coefficients and  $X_i$  are various explanatory variables.

Odds Ratio (OR) for determining the effect of various categories of explanatory variables on likelihood of being current user of modern contraceptives were estimated by computing  $\text{Exp}(\beta)$  for each variable (Hosmer and Lemeshow, 2000).

Socio- demographic variables used in association analysis (inferential statistical analyses) included respondent's age, type of marriage, education level, religious affiliation, ethnicity (tribe), household socio-economic status proxied by annual household income and distance to the nearest health facility; fertility variables included current number of living children and woman participation in household/family decisions regarding fertility; Attitudinal variables included "if think benefits of modern contraceptives outweigh their negative effects", husband approval of modern contraceptives and frequent discussion of family planning between spouses (i.e., spousal communication on family planning/modern contraceptives). Reaction (side effects) of modern contraceptives in this study were captured by a question asking "if ever experienced side effect" for respondents that had ever used modern contraceptives. Based on existing literature, in this study it was hypothesized that there was significant association between these variables and current use of modern contraceptives. Association was considered significant when  $p < 0.05$ . Based on descriptive statistical analysis, since nearly all respondents were aware and had good knowledge on modern contraceptives, association between cognitive variables and current use of modern contraceptive were excluded in association study/analysis.

Qualitative information collected in this study were analysed using Content Analysis (CA).

## RESULTS AND DISCUSSION

### Socio- demographic characteristics of respondents:

Socio- demographic variables are among important factors influencing individual's decisions on contraception and fertility (Dabral and Malik, 2004; Igwegbe *et al.*, 2009; Burke and Ambasa-Shisanya, 2011). Results from Table 1 indicate that although majority of study participants (nearly half) aged between 20-30 years i.e. younger, however, substantial proportion of respondents (41%) aged more than 30 years. Since marriage/childbearing in rural Africa starts early (Duzé and Mohamed, 2006; Atuyambe, 2008), this observation indicates sizeable number of study participants were in age in which they could already have several children and hence could need modern contraceptives for child limiting. Polygamous type of marriage may negatively influence husband-wife communication on family issues including those related to fertility and contraception. Furthermore, studies have shown individuals that are monogamous and have positive attitudes towards contraceptives will be more inclined to use contraceptives

Table 1: Distribution of respondents by Socio- demographic characteristics (n = 160)

Variable	Frequency	Percent
<b>Age (Years)</b>		
< 20	16	10.0
20-30	78	48.8
> 30	66	41.2
<b>Type of marriage</b>		
Monogamy	130	81.3
Polygamy	30	18.7
<b>Education level</b>		
None	4	2.5
Primary	124	77.5
Secondary and above	32	20.0
<b>Religious affiliation</b>		
Catholic	29	18.1
Protestant	119	74.4
Moslem	12	7.5
<b>Tribe/Ethnicity</b>		
Gogo	96	60
Others	64	40.0
<b>Annual household income</b>		
< 500,000	94	58.8
500,000 – 1,000,000	40	25.0
> 1,000,000	26	16.2
<b>Distance to nearest health facility</b>		
5 km and below	103	64.4
Above 5 km	57	35.6

than those in polygamous marriage. This is more particularly so due to competition to bear children among the co-wives (Duzé and Mohamed, 2006). Results in Table 1 indicate type of marriage by 81% of total respondents was monogamy, implying nearly one-fifth (i.e. 20%) of respondents, a noticeable proportion, were in polygamy type of marriage. Results from Table 1 also indicate good literacy level for the study population and hence more likely possessing good ability to understand message in health promotion materials (i.e., posters, brochures), including those involving family planning (Mgabo *et al.*, 2010). About 78% of the sampled individuals had primary education and 20%, that is one in every five married women of reproductive age had at least secondary education. Religious affiliation by most of the respondents was Protestant accounting for nearly three-quarters (74.4%) of total respondents, followed by Catholic accounting for 18.1% of total respondents and the rest were Moslem; to some extent reflecting existence variations in religious affiliation/ideology in a study populations and hence possibly differences in beliefs and practices towards modern contraceptives (Dey and Goswami, 2009; Dhingra *et al.*, 2010; Burke and Ambasa-Shisanya, 2011). Similarly, although majority of study participants were Gogo, however a considerable proportion of them (40%) were coming from other tribes and hence possibly existence of cultural differences in a study population, which may in turn influences their beliefs and practices towards modern contraceptives (Singh, 2006; Ndaruhuye *et al.*, 2009; Dey and Goswami, 2009). Socio- economic status (in this study proxied by family income) as well as distance to the nearest health

Table 2: Distribution of respondents by information related to fertility (n = 160)

Variable	Frequency	Percent (%)
Current number of living children		
0-2	61	38.1
3-4	67	41.9
5 & above	32	20.0
If want more children		
Yes	115	71.9
No	45	28.1
Desired number children		
0-2	19	11.9
3-4	64	40.0
5 & above	77	48.1
Who has final decision on fertility in a household (i.e., when to have next birth and number of children in a family)		
Husband	114	71.3
Wife	14	8.7
Both	32	20.0

facility may influence woman health seeking behaviour including modern contraception (Amin *et al.*, 2010; Woldemicael and Beaujot, 2011). Results from Table 1 indicate households involved in this study distributed across various categories of social economic status with majority of them (58.8%) having family income of below 500, 000 Tsh. per annum and a quarter having family income per annum of between 500, 000 to 1,000,000 Tsh. Distance to the nearest health facilities by around one-third (36%) of study participant was more than 5 km (i.e. located at distant areas).

**Information related to fertility :** Results from Table 2 indicate current number of living children by most of respondents (62%) were at least three children, with 20% of total respondents having five children and above. Respondents were also asked to indicate if they want more children in the future. In this regard, despite most of respondents had at least three children, still majority (71.9%) wanted more children, with desired number of children in life time (i.e. ideal number of children) by nearly half of respondents (48%) being five and above. These observations reflect preference for higher number of children by a noticeable proportion of families in a study population, a situation which might hinder uptake of modern contraceptives and hence lowered pace for reducing fertility in the area. Preference for higher number of children by African rural families was also reported in other parts of Africa (Eyayou *et al.*, 2004; Keele *et al.*, 2005; Duze and Mohamed, 2006; Chipeta *et al.*, 2010; Avidime *et al.*, 2010). Although a considerable proportion of respondents preferred higher numbers of children (5 and more), proportion of respondents that preferred low (0-2) to medium (3-4) number of children was also substantial (52%), however, studies have indicated lack or low decision autonomy by women on family matters in a household could be a barrier for achieving a desired number of children

Table 3: Distribution of respondents by knowledge on modern contraceptives

Variable	Frequency	Percent (%)
Awareness to modern contraceptives (n =160)		
Aware	158	98.8
Not aware	2	1.2
Number of modern contraceptives methods known (n = 158)		
1	8	5.1
2	13	8.2
3	68	43.0
More than 3	69	43.7
Type of modern contraceptives methods known* (n = 158)		
Pills	149	94.3
Injection	148	93.7
Male condom	57	36.1
Norplant	138	87.3
IUD	80	50.6
Female sterilization	5	3.2
Source of information on modern contraceptives* (n = 158)		
Hospital	58	36.7
Dispensary	54	34.2
Health centre	20	12.7
Mobile clinic	18	11.4
Friends	32	20.3
Relative	4	2.5
Radio	5	3.2
Elders	2	1.3
Different people	8	5.1
Public announcement	3	1.9
Posts	2	1.3
Leaflets	5	3.2
School	4	2.5

\*: Data were based on multiple responses

in a life time (Matthews *et al.*, 2005; Nwankwo and Ogueri, 2006; Shaikh *et al.*, 2008; Woldemicael and Beaujot, 2011). In this regard, when respondents asked on whom has final decision on fertility in a family (i.e., when to have next birth and number of children in a family), majority of them (71%) indicated the final decision to be done by husband (Table 2), a situation which might negatively influence women's decisions on contraception and their ability to achieve their dreams on wanted number of children in life time in a study population.

### Knowledge and Attitudes towards Modern Contraceptives:

**Knowledge on modern contraceptives:** Good knowledge and positive attitudes towards an intervention or a new practice by a target group are among the key determinants for adoption (Ndaruhuye *et al.*, 2009; Mathe *et al.*, 2011; Woldemicael and Beaujot, 2011). In this regard, this study was also interested on ascertaining knowledge of married women of reproductive age in study population on modern contraceptives. When respondents were asked if they are aware of modern contraceptives, overwhelming majority (98.8%) indicated to be aware of the methods and over 80% knew at least three methods (Table 3). The most commonly known

methods were pills, followed by injection, Norplant and IUD indicated by 94.3, 93.7, 87.3 and 51% of respondents, respectively. This observation support earlier findings in other part of Tanzania and Africa in which it was noted that most women were aware of modern contraceptives despite low adoption rate (URT, 2010; Aryeetey *et al.*, 2010; Opoku and Kwaununu, 2011; Mathe *et al.*, 2011). Less than half (36.1%) of total respondents mentioned male condoms as among of modern contraceptives methods as most of the respondents perceived it as a preventive measure against HIV/AIDS and other sexually transmitted diseases. Similar view among study participants was also noted in a study by Mengistu *et al.* (2006) in Ethiopia. Main source of information on modern contraceptives were government health facilities such as hospitals and dispensaries (Table 3). The following quote from one participants of Focus Group Discussions (FGDs) support this observation;

“Every time we go at the hospital or dispensary first before being attended we are given a seminar on the importance of modern family planning methods and how to use them” (FGD participant from Mtamba village).

This observation demonstrates good efforts made by the government in promoting modern contraceptives even in rural areas, a practice which is commendable.

**Attitude towards modern contraceptives:** Study participants who were aware of modern contraceptives were asked to indicate their views on whether if benefits of modern contraceptives outweigh negative effects; if desired to know more on modern contraceptives; if would recommend use of modern contraceptive to a friend; if not current user, if intends to use modern contraceptives in future; if frequently discuss with husband on modern contraceptives/family planning (spousal communication on family planning); and if husband approve modern contraceptives with the purpose of ascertaining their attitude as well as attitude of husband towards modern contraceptives.

Results from Table 4 indicate a good number of study participants had positive attitude towards modern contraceptives. Results shows that half (50%) of total respondents that were aware of modern contraceptives thought that benefits of modern contraceptives outweigh negative effects and nearly two- third (65.2%) were interested to know more (learn more) on modern contraceptives. Furthermore, 42% of them that is four in every ten of respondents that were aware of modern contraceptives admitted that they could recommend use of modern contraceptives to a friend. In addition, for those who were non current users of modern contraceptives, a quarter (25.4%) of them indicated they are intending to

Table 4: Distribution of respondents by information related to attitude towards modern contraceptives

Variable	Frequency	Percent (%)
Thinking that benefits of modern contraceptives outweigh negative effects (n = 158)		
Yes	79	50.0
No	32	20.3
Not sure	47	29.7
If desire to know more on modern contraceptives (n = 158)		
Yes	103	65.2
No	55	34.8
If would recommend use of modern contraceptives to a friend (n = 158)		
Yes	66	41.8
No	60	38.0
Not sure	32	20.2
If not current user of modern contraceptives, if intends to use them in future (n = 118)		
Yes	30	25.4
No	48	40.7
Not sure	40	33.9
If husband approve modern contraceptives (n = 158)		
Yes	54	34.2
No	104	65.8
If frequently discuss with husband on modern contraceptives/ family planning (n = 158)		
Yes	32	20.3
No	126	79.7

use them in future. Despite positive attitude of towards modern contraceptives by a considerable proportion of women in a study population, however, its use can be limited by negative attitude of husband towards modern contraceptives as it has been observed in other studies in other parts of Africa (Tuloro *et al.*, 2006; Nwankwo and Ogueri, 2006; Igwegbe *et al.*, 2009; Burke and Ambasa-Shisanya, 2011; Mathe *et al.*, 2011). Results from Table 4 indicate two- third (65.8%) of study participants indicated their husbands doesn't approve modern contraceptives and very few (20%) frequently talk/discuss with husband on modern contraceptives/family planning, a situation which may hinder uptake of modern contraceptives by married women in a study population.

**Practice towards modern contraceptives by study participants :** This study also wanted to know status of contraceptive use in a study population. Findings from Table 5 reveal that nearly one- third (31.6%) of sampled women indicated to have ever used modern contraceptives with most ever used method being injection (72%) followed by pills (60%) mainly obtained from public health facilities. Criteria for the choice of the method were mainly safety and convenience indicated by 38% and 30% of the respondents, respectively. Studies have indicated women prefer injection method as it is long term acting and it is not easy to be detected by a husband (secrecy) in case he doesn't approve modern contraceptives (Marchant *et al.*, 2004; Mqhayi *et al.*, 2004; Fantahun, 2005; Kebede, 2006).

Table 5: Practice of modern contraceptive by percent

Variable	Frequency	Percent (%)
If ever used modern contraceptives (n = 158)		
Yes	50	31.6
No	108	68.4
If currently using modern contraceptives (n = 158)		
Yes	40	25.3
No	118	74.7
Method(s) ever used* (n = 50)		
Pills	30	60.0
Injection	36	72.0
Male condom	10	20.0
Norplant	11	22.0
IUD	2	4.0
Female sterilization	1	2.0
Where obtained modern contraceptives* (n = 50)		
Hospital	23	46.0
Dispensary	19	38.0
Mobile clinic	4	8.0
Health centre	10	20.0
Shop/pharmacy	1	2.0
Criteria for choice of the method* (n = 50)		
Safety	19	38.0
Approval by husband	5	10.0
Secrecy	9	18.0
No other choice/availability	3	6.0
Convenience (Easy to use)	15	30.0
Effectiveness	1	2.0
Advised by health personnel	4	8.0
No criteria	8	16.0
If ever experienced side effect (n = 50)		
Yes	28	56.0
No	22	44.0
If ever shifted from one method of modern contraceptives to another (n = 50)		
Yes	11	22.0
No	39	78.0

\*: Data were based on multiple responses

Table 6: Distribution of respondents by side effects ever encountered (n = 28)

Side effect	Frequency	Percent (%)
Headache	4	14.3
Irregular bleeding	18	64.3
Weight gain	1	3.6
Weight loss	2	7.1
Fatigue	3	10.7
Backache	4	14.3
Nausea	3	10.7
Abdominal pain	9	32.1
Vertigo	1	3.6
Waist pain	1	3.6
Increase heart beats	2	7.1
Pains in the reproductive organ	1	3.6
Vomiting	1	3.6
Pains in the whole body	2	7.1
Cough dark sputum	1	3.6
Paralysis	2	7.1

\*: Data were based on multiple responses

Preference for injection method by most of modern contraceptive users in a study population was also noted in most of the Focus Groups Discussions (FGDs). The following quote from one participant illustrate;

“Most of us like injection as it is easy to use, it last long and easy to hide from husband if he doesn’t

approve modern contraceptives compared to pills” (FGD participant from Mwanakianga village).

Although a noticeable proportion of respondents ever used modern contraceptives, however, there was a substantial drop-out and shifting from one method to another. As a result, by the time this study was carried out a proportion of current users of modern contraceptives for the married women of reproductive age (i.e., contraceptive prevalence rate) stood at 25.3% (Table 5). This figure indicates there is some improvement when compared to the value of 20% reported for the national averages on the year 2004/2005 (TDHS, 2005). However, the current figure is far away (too low) from the national target of 60% (URT, 2010), indicating more effort is needed to increase contraceptive use in a study population. Furthermore, results from Table 5 indicate that more than half (56%) of the respondents reported that they had ever experienced side effects and 22%, that is two in every ten respondents had ever shifted from one method to another. Irregular bleeding and abdominal pain were the main side effects ever experienced mentioned 64.3 and 32.1% of the respondents, respectively (Table 6).

Studies have indicated experiencing of side effects are among the major factors for non use of modern contraceptive, drop-out and shifting from one method to another among women (Marchant *et al.*, 2004; Khan *et al.*, 2008; Igwegbe *et al.*, 2009).

#### Determinants of current use of modern contraceptives:

Preliminary bivariate analyses using chi-square test indicated current use of modern contraceptives was significantly influenced by respondents’ age and education level, distance to the nearest health facility, number of living children, husband-wife communication on family planning (i.e. if spouse frequently discuss modern contraceptives/family planning), women participation in decisions regarding households matters including fertility (i.e. when to have next birth and number of children in a family), husband approval of modern contraceptives, if ever encountered side effects as well as attitudes towards modern contraceptives (i.e., benefits of modern contraceptives versus their negative effects) ( $p < 0.05$ ). Effect of other variables included in this analysis such as marital status, type of marriage, religious affiliation, ethnicity and annual household income were not significant ( $p > 0.05$ ) (Results not shown). Significant variables in bivariate analysis were subjected to Binary Multiple Logistic Regression Analysis, a multivariate analysis to remove confounding effects. Results are presented in Table 7. Results from the Table indicate while the effect of age ceased to be significant, the effect of other variables included in the model continued to be significant, indicating they are robust predictors of current use of modern contraceptives in a study population.

Table 7: Results for Binary Multiple Logistic Regression Analysis for reporting current use of modern contraceptives against various socio-demographic, fertility and attitudinal variables and experiencing of side effects

Predictor	$\beta$	Standard Error (S.E)	Wald-Statistic	Odds ratio (OR) Exp. ( $\beta$ )	Sign.
<b>Age(years)</b>					
Less than 30 (Ref.)					
30 and above	-0.19	1.85	0.01	0.84	NS
<b>Education level attained</b>					
None or primary (Ref.)					
Secondary and above	2.72	1.12	5.90	15.18	*
<b>Distance to the nearest health facility (km)</b>					
5 and below (Ref.)					
More than 5	-0.40	0.14	8.16	0.67	*
<b>Current number of living children</b>					
3 and below (Ref.)					
4 and above	2.98	0.93	10.27	19.68	**
<b>Who has final decision on fertility? (i.e., when to have next birth and number of children in a family)</b>					
Husband (Ref.)					
Wife	0.24	1.7	0.02	1.27	NS
Both	2.97	0.92	10.42	19.40	**
<b>If ever experienced side effect</b>					
No (Ref.)					
Yes	-0.82	0.29	8.99	0.44	*
<b>Thinking that benefits of modern contraceptives outweigh negative effects</b>					
No (Ref.)					
Yes	2.14	0.68	9.90	8.50	*
<b>If husband approve modern contraceptives</b>					
No (Ref.)					
Yes	2.92	0.89	10.76	18.46	**
<b>If frequently talk (discuss) with husband on modern contraceptives / family planning</b>					
No (Ref.)					
Yes	0.61	0.22	7.69	1.84	*

Nagelkerke R square = 0.62; Ref. = Reference category; NS = Non- significant ( $p > 0.05$ ); \* = Significant at  $p < 0.05$ ; \*\* = Significant at  $p < 0.01$ .

Having secondary education and higher by a woman was associated with increased likelihood of being current user of modern contraceptives (OR = 15.18,  $p < 0.05$ ) (Table 7). This finding is in accordance with results from several previous studies conducted in other parts of Africa as well as Asian countries (Oye-Adeniran, 2006; Nwankwo and Ogueri, 2006; Bhandari *et al.*, 2006; Khan *et al.*, 2008; Adanu *et al.*, 2009; Mturi and Joshua, 2011). Some of these authors argued that education provides new outlook and freedom from traditions and further that highly educated women have more decision making power within marriage, including decisions about reproductive health.

Regarding distance from nearest health facility versus current modern contraceptives use, results from Table 7 reveal that increased distance from nearest health facility was associated with reduced likelihood of being current user of modern contraceptives. Women living more than 5km from nearest health facility had a 33% (OR = 0.67,  $p < 0.05$ ) reduction in the odds of currently using modern contraceptives relative to those living within 5 km. This trend also featured during FGDs. Since health facilities was the main source of modern contraceptives in a study population and further that some women in the study population preferred to hide the use of modern contraceptive from their husband as it has also been

reported in some other studies (Marchant *et al.*, 2004; Kebede, 2006), therefore, being closer to the health facility make it easier for a woman to rush to the facility and take contraceptives without being noted by husband. The following quote from one of the FGD participants illustrate;

“Sometimes a woman may want to use the modern family planning methods secretly especially for those whom their husbands or partners do not approve their use, but we fail to obtain the service as it can only be accessed in a distance of 7km from here which is far” (FGD participant from Mazae village).

Current number of living children was another factor that was significantly associated with current use of modern contraceptives in a study population. Due to preference for large number of children by most of study participants (Table 2) as it has also been the case in other part of Africa (Duze and Mohamed, 2006; Dibaba, 2008; Chipeta *et al.*, 2010; Avidime *et al.*, 2010; Adiri *et al.*, 2011; Adeleye *et al.*, 2010), it can be seen from Table 7 that women with less children (3 and below) were less likely to be current user of modern contraceptives compared to those that have already achieved higher number of children (4 and above). Women that had

already achieved higher number of children (at least four) were associated with increased odds of being current modern contraceptives user compared to the counterpart (OR = 19.7,  $p < 0.01$ ) (Table 7). This finding imply that more education on importance of having smaller families need to be given in a community under study and hence increased contraceptive uptake.

Women participation in household decisions including those related to fertility (i.e., high women autonomy in household matters; gender power balance in household decisions) as well as spousal communication on family planning have been indicated in several studies to be associated with increased likelihood of modern contraceptive use by women (Dabral and Malik, 2004; Matthews *et al.*, 2005; Amaha and Fikre, 2006; Stephenson *et al.*, 2007; Khan *et al.*, 2008; Shaikh *et al.*, 2008; Ndaruhuye *et al.*, 2009). Consistent with the results of these previous studies, results of this study indicate that women who reported frequent discussion of modern contraceptives/family planning with their partners were more likely to be current user of modern contraception compared to the counterpart (OR = 1.84,  $p < 0.05$ ). Likewise, women reported joint decisions with their husbands on issues related to fertility were more likely to be current user of modern contraceptives compared to those reported final decision to be done by husband alone (OR = 19.4,  $p < 0.01$ ) (Table 7). These observations imply that campaign to empower women such emphasis on their education and encouraging gender balance by changing community attitude towards position/status of women in a household and in a society as a whole, as currently they are given lower position, specifically in patriarchal society (Shaikh *et al.*, 2008; Woldemicael and Beaujot, 2011) which is also the case in a study population, could improve use of modern contraceptives in a study population.

Husband opposition was also noted to be a significant barrier to modern contraceptive use among women in a study population. Women that reported that their husband approves modern contraceptives were more likely to be current users of modern contraceptives compared to the counterpart (OR = 18.5,  $p < 0.01$ ) (Table 7). Husband opposition as a barrier for modern contraceptive use also featured in all FGDs. For example, one FGD participants from Chilendu village had the following to say :

“Husbands are obstacles to modern contraceptives use; other men want their women to give birth all the time” (FGD participant from Chilendu village).

Another participants from the same FGD group added;

“Modern family planning methods are good and we like to use them but the problem is that there are still some hindrances which inhibit their use for example, husband opposition” (FGD participant from Chilendu village).

Husband disapproval of modern contraceptives as a barrier to modern contraceptive use by women was also reported elsewhere in African as well as in Asian countries (Dabral and Malik, 2004; Tuloro *et al.*, 2006; Nwankwo and Ogueri, 2006; Khan *et al.*, 2008; Igwegbe *et al.*, 2009; Burke and Ambasa-Shisanya, 2011; Aryeetey *et al.*, 2010; Mathe *et al.*, 2011). The situation is further aggravated by dominance of males in decision making in a household (Woldemicael and Beaujot, 2011). This observation reflect a need for males to be given more education on importance of family planning in a study population to improve uptake of modern contraceptives, this could be through involvement of males in family planning programs.

Studies elsewhere have indicated women experience of side effects of modern contraceptives such as irregular bleeding (Marchant *et al.*, 2004; Khan *et al.*, 2008; Igwegbe *et al.*, 2009; Burke and Ambasa-Shisanya, 2011; Adeleye *et al.*, 2010), as well as fear for side effects, existence of some myths and misbeliefs towards modern contraceptives such as modern contraceptives causes infertility and modern contraceptives lead to delivery of deformed baby, i.e., negative attitude towards modern contraceptives (Dabral and Malik, 2004; Oye-Adeniran *et al.*, 2006; Burke and Ambasa-Shisanya, 2011; Adeleye *et al.*, 2010; Chipeta *et al.*, 2010; Mathe *et al.*, 2011) to be important determinants for contraceptive use among women. In agreement with results of these previous studies, results in Table 7 indicate that ever had experienced side effect by woman was associated with decreased likelihood of being current user of modern contraceptives compared to the counterpart (OR = 0.44,  $p < 0.01$ ). Furthermore, having positive attitude towards modern contraceptives (i.e., thinking that benefits of modern contraceptives outweigh negative effects) was associated with increased chances of being current user of modern contraceptives compared to the counterpart (OR = 18.5,  $p < 0.01$ ) (Table 7).

Fear of side effects, existence of some myths and misbeliefs (i.e negative attitude towards modern contraceptives) as barriers to modern contraceptive use in a study population also featured in all FGDs. The following quotes from some FGD participants illustrate;

“We fear of side effects these methods have, sometimes we stop seeing our normal menstrual cycles and sometimes we face excessive bleeding. Therefore those whom will experience such situations are the ones whom dishearten others especially the new adopters; as you know all the time bad news spread faster than good one” (FGD participant from Ilolo village).

“There is news about the use of these modern contraceptives, that to those girls at the age of eighteens and haven’t yet given birth, if use them they subject themselves at a risk of being sterile” (FGD participant from Mtamba village).

“When a woman takes pills, these pills usually don’t dissolve in the body; instead they accumulate in the uterus, a situation which interfere conception, consequently lead to sterility” (FGD participant from Mazae village).

### CONCLUSION

Knowledge of modern contraceptives is high in a study population. Substantial proportion of women had positive attitude towards modern contraceptives and hence more room for increasing modern contraceptive use in a study population, though negative attitude of husbands towards modern contraceptive and lack of spousal communication on family planning could be a limitation. Regarding modern contraceptive prevalence rate, although there was some improvement compared to the past national averages, however, the current figure for prevalence rate is still low when compared to the national target. Likelihood (chances) of being current user of modern contraceptives by a woman increased with increase in education level, having higher number of living children, spousal communication on modern contraceptives, (i.e., Frequently talking/discussing family planning/modern contraceptives among spouse), woman participation in decisions making regarding fertility in a family, husband approval of modern contraceptives and having positive attitudes towards modern contraceptives (i.e., tinking that benefits of modern contraceptives outweighs negative effects). If had ever encountered side effects and living far from health facility by a woman were associated with reduction in odds (chances) of being current user of modern contraceptives.

### RECOMMENDATIONS

Based on findings of this study, to enhance contraceptive use by married women of reproductive age in a study population it is recommended that education to the community on importance of having smaller families should be intensified. Furthermore, campaigns to empower women such as emphasis on their education, encouraging gender balance by changing community attitude towards position/status of women in a household and in a society as a whole should be strengthened. This would improve their participation in household decisions including those related to fertility and contraceptive use. Campaigns to raise awareness on importance of modern contraceptives among males (husbands) should be emphasized and should go along with those involving women. This could be through involvement of males in family planning programs. More education/counselling services to women on how to handle/deal with side effects associated with various modern contraceptives methods

should be given due weight and campaigns against myths and misbeliefs that negatively affect use of modern contraceptive in the study population should be initiated.

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