Factors associated with Contraceptive Discontinuation among Women (15-49 Years) in Uganda.

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Abstract— Contraceptive discontinuation is the dilemma behind full utilization of family planning services, leading to an unnecessary increase in fertility rates, unwanted pregnancies, and induced abortions. The objective of this work is to investigate factors associated with contraceptive discontinuation among women aged 15-49 years in Uganda. The study is based on secondary data set from Performance and Monitoring Accountability 2020 (PMA 2020) for PMA2016 Uganda Round 4, with a selection of a sample of 4047 women. The binary logistic regression is used at the multivariate analysis level.

The overall findings reveal that 275 women (6.8%) discontinued the use of contraceptives. The logistic regression revealed that the younger women (25-29, 30-35) had higher odds of discontinuing (OR = 3.7, p=0.020), (OR = 4.6, p=0.016), compared to those of (15-19) age group respectively. Women who were formerly married had higher odds of discontinuing (OR = 4.2, p=0.007), compared to the odds of currently married women. More so, women who have used any method recently had higher odds of discontinuing (OR = 160.9, p=007), than women who used long-lasting injectable. Lastly, Women concerned about their health had higher odds of contraceptive discontinuation (OR = 1.923, p=0.044), than women who had no health concerns.

Contraceptive discontinuation is associated with age categories, marital status method of contraceptives and health concerns, which are vital in the proper use and continuation of contraceptives. The study recommends that interventions that encourage young people to use contraceptives be prioritized and supported, as they will fill the gap created by an unmet need for family planning, promotion of partner involvement and awareness need to be taken into account as many different types of contraceptives cannot be used in secrecy. While adopting and applying the mentioned recommendations, emphasis should be put on women most especially between 25-35 years.

Index Terms— Contraceptive discontinuation, Contraceptive use, Family Planning, Pregnancy

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1 INTRODUCTION

GLOBALLY, contraceptive discontinuation has a major contribution towards total fertility rate, unwanted pregnancies and induced abortions (Okanlawon, Reeves, & Agbaje, 2010). WHO (2016), states that in six diverse developing countries five in ten women discontinue use of a contraceptive method within one year. Contraceptive discontinuation continues to be a daunting task in contraceptive use and studies indicate that women between ages 15-49 are at risk of pregnancy and find themselves in the greatest dilemma. It continues to stress that 225 million women in developing countries would like to delay or stop a pregnancy however, they are not using any method of contraception.

Sub-Saharan Africa continues to register very high rates of contraceptive discontinuation leading to unwanted fertility. Jain & Winfrey (2017), investigated 34 Demographic and Health Surveys and estimated that 38% of women had discontinued using a method of contraceptives, which rose to 50% in sixteen countries. This level of discontinuation explains that up to 49 million out of 258 million women who are using modern contraceptives live in the poorest countries.

In Uganda, 43% of contraceptive users discontinued a method of contraceptives within a period of 12 months according to (UBOS and ICF International 2016). Trends in contraceptive prevalence rates in Uganda show increase overtime 15% in 1995, 18.6% in 2000-2001, 24% in 2006 and 26% in 2011 according to the Uganda demographic and healthy survey of the consequent years (UBOS, 2016). PMA 2020 Uganda round 4 survey of 2016 shows that 31.1% use contraceptives, which is of great importance in controlling unwanted fertility. However, there is an unclear trend of contraceptive discontinuation among women aged 15 – 49 (Blanc, Tsui, Croft, and Trevitt , 2009). The projected number of women who might discontinue use of contraceptives might double by 2020.

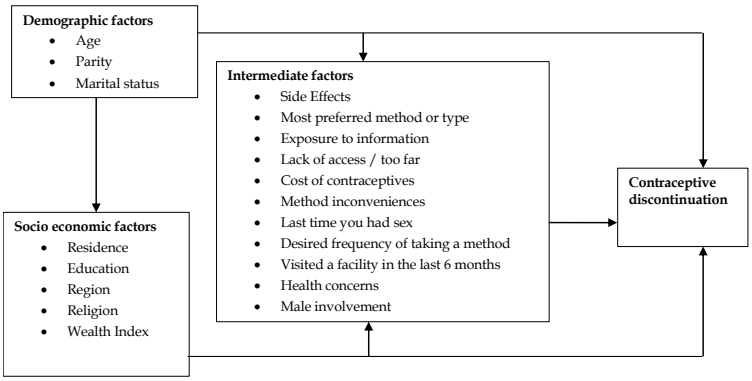
Since 2011, different scholars like (Azmat et al., 2012), (Nanda et al., 2011) (Tsui et al., 2017) have written on contraceptive discontinuation among women but no study has been written in relation to understanding the prevalence rates, and category of women who discontinue use of contraceptives in Uganda basing on quantitative data which makes this study inevitable.

Thummalachetty et al. (2017) and Jain & Winfrey (2017) who currently wrote on contraceptive discontinuation in Uganda used demographic health surveys of 2011, the former did an in-depth qualitative survey among men while the latter focused on unintended births. This study uses the PMA2020 survey of 2016 round 4 to explore the factors leading to contraceptive discontinuation among women.

1.1 Theoretical and Conceptual Framework

The decision to discontinue a contraceptive is based on the theory of planned behavior by Donovan and Jessor (1985). This theory is considered relevant in predicting contraceptive decisions. The theory of planned behavior (TPB) predicts an individual's intention to engage in the behavior at a specific time and place. It also speculates that individual behavior is driven by behavior intentions which are a function of three determinants that is attitude, subjective and behavior intentions (Cover et al., (2013); Hayter (2009); Harris (2013))

Figure 1 Conceptual framework showing factors associated with contraceptive discontinuation



Perceived behavioral control depends largely on barriers to contraceptive use. These barriers arise from factors external to the adolescents. Even when perception of contraceptive is positive, physical barriers could still affect use hence leading to contraceptive discontinuation. Cover et al., (2013) talks about the over the counter pharmacies (OTC) where unmarried women are unlikely to procure contraceptives unless they can do so anonymously hence such a physical barrier is associated with stigma which is associated with premarital sex.

Contraceptive barriers were assessed by considering family planning provider, side effects, side effects instructions, cost, husband away, fatalistic unmet need and choice factors. Barden-O'Fallon and Speizer (2011) note that side effects are one of the reasons most cited for contraceptive discontinuation, particularly of hormonal contraceptives. He reports 20% of women who did so because of side effects. The barriers are influenced by intervening factors like a woman's age, current relationship, personal beliefs, past experiences with methods consequently intervening conditions can help weigh what's best to help prove the methods effectiveness, messiness, interference with sexual pleasure which will validate whether the method is working. Jain and Winfrey (2017) narrate the ordeal of unmet need for contraceptives were some women entirely stop using contraceptives and thus remain exposed to the risk of unintended pregnancy.

2 LITERATURE REVIEW

2.1 Contraceptive discontinuation

Other than the desire for pregnancy, many other conditions have led to contraceptive discontinuation. Among contraceptives currently available in Uganda include but not limited to oral contraceptives long-acting reversible contraception, such as an implant, or an intra-uterine device (IUD), hormonal contraception such as contraceptive pills "the pill". The injection and vaginal rings, barriers methods, such as condoms and diaphragms, fertility awareness, emergency contraception like copper t IUD, permanent contraception, such as vasectomy and tubal ligation. (Curtis et al, 2011b) (Cover et al, 2013).

The variation in contraceptive discontinuation is influenced by a number of background factors that alter the level of discontinuation. These factors include demographic characteristics like age, parity, and marital status. Socioeconomic factors involve the level of education, area of residence, religion, region, wealth index and intermediate factors like side effects, contraceptive type/ nature, long term, and short term, method failure, unmet need, exposure to information and access to contraceptive services.

2.2 Demographic characteristics and contraceptive discontinuation

Age is an influential factor in the use of contraceptives because early reproductive years 25-29 and 30 -34 years significantly contributed more often to contraceptive discontinuation. The younger the woman, the more likely she is to discontinue using contraceptives as stated by Tsui et al (2017). Singh et al., 2010 in their study carried out in 2008 estimated that 82% of pregnancies in females aged 15-19 were unintended. Another study by Polis et al., 2016 suggested that contraceptive discontinuation was significantly associated with age.

Singh et al., 2010, Harris (2013) and Maslyanskaya et al., 2016 all tend to agree that the young the woman the more likely she is to discontinue using contraceptives, for other reasons other than becoming pregnant. Therefore, understanding factors influencing youth decisions about contraceptive discontinuation is paramount in this study.

Marital status in relation to parity is also associated with contraceptive discontinuation. The number of times a woman has given birth to a child, regardless of whether alive or still is associated with contraceptive discontinuation (Polis et al., 2016). Rates of contraceptive discontinuation have been found much higher among parity women than nulliparous women, in long-term methods of contraceptives like implants. Marital status including currently marrieds, currently living with a partner, divorced or separated, widow or widower and the never married have contributed inconsistent findings among many studies. Tsui et al (2017), in his study on family planning, found that marital dissolution/separation was one of the factors with a significant association with contraceptive discontinuation

2.3 Socioeconomic factors and contraceptive discontinuation

Residence, education, and wealth status

Singh, Tapan Kumar, and Singh (2010), Polis et al. (2016) and (Grunloh, Casner, Secura, Peipert, & Madden, 2013) demonstrated that area of residence, education, household and wealth status factors are associated with contraceptive discontinuation. Urban women and women with higher levels of education and socioeconomic status are more likely to switch than stop after discontinuing a method (Cover et al., 2013). However, Barden-O'Fallon et al (2011) note that other social economic factors like education, place of residence and household income tend to have less consistency relevance for discontinuation.

Intermediate factors and contraceptive discontinuation

Nausea, irregular and heavy bleeding, breast tenderness, mood changes, unwanted vaginal wetness and dryness, pain, lower libido, and weight gain are multiple side effects that substantially increase the likely hood of contraceptive discontinuation. Hayter (2009), stresses that a single side effect has an increased risk of 50% 2 side effects by 220% and 3 by 320% (Michael J. Rosenberg, 2000). However, the gravity of side effects like abnormal bleeding has accumulated contradictory studies. Prior to the latter is a number of women even without contraceptive use do not know their menstruation cycles (Singh et al., 2010).

Choice of a method can be determined by information on a contraceptive method. Considering levels of education like no education, primary, secondary, and tertiary may not influence a woman's choice of contraceptives but to continue using or stop using is a regard to a number of choices a woman is aware of. Misconceptions and lack of information about contraceptives is no unique feature to the undereducated. The level of education is in relation to contraceptive nature either hormonal, oral, short term or long term. However, Barden-O'Fallon et al (2011) agree that there is weak evidence concerning whether counseling interventions can improve continuation of hormonal contraceptives.

Barden-O'Fallon et al., (2011a)'s study on family planning service environment discusses the relationship between access cost and quality of services and contraceptive discontinuation. He found that many previous studies have failed to identify statistically significant associations between service environment and discontinuation. Others that have found a significant effect observed the size and programmatic significance of the effects relatively small (Khader et al.,2006).

The desire to acquire contraceptives to avoid unintended pregnancies can be determined by an unmet need. Unmet need occurs when women who no longer want to become pregnant or who want to delay pregnancy are sexually active but are not using a method of contraception to avoid or delay a pregnancy (Nanda et al. 2011). Unmet need can lead to an unplanned pregnancy and unwanted births, which in turn may result in such negative public health consequences as increased maternal, neonatal, and infant morbidity and mortality (Curtis et al., 2011b; Tolley et al., 2005).

3 METHODOLOGY

3.1 Data Source

A secondary data set from Performance and Monitoring Accountability 2020 (PMA 2020) for PMA2016 Uganda Round 4, household section was used in this study. The study analyzed 4047 women (aged 15-49) and investigated their casual linkage to contraceptive discontinuation assessed by whether or not women discontinued using contraceptives.

3.2 Study variables and their measurements

The study variables were; contraceptive discontinuation, age of respondent, parity, marital status, level of education, place of residence, region, religion prohibitions, wealth quintile. Fear of side effects, most preferred method or type, exposure to information (Radio), lack of access to contraceptives, cost of contraceptives, method of inconveniences, last time you had sex, desired frequency of taking a method, health concerns, and husband involvement.

3.3 Data analysis

Data were analyzed in STATA at 3 different levels Univariate, Bivariate, and Multivariate models of analysis.

3.4 Univariate analysis

This involved a descriptive summary of demographic, socio-economic and intermediate factors. The analysis was done using frequency distributions and summary statistics to explain data.

3.5 Bivariate analysis

Differentials in contraceptive discontinuation by demographic, socioeconomic and intermediate factors was done using the Pearson chi-square test statistic. The test statistic is;

$$\chi^2 = \sum_{i=1}^{r}\sum_{j=1}^{c}\left(\frac{(O_{ij}-E_{ij})^2}{E_{ij}}\right) \quad (1)$$

Where; Oij is the observed frequencies, Eij is the expected frequencies, r is the number of categories of the independent variables and c is the number of categories of the dependent variables. The association was established at 95% confidence level were 0.05 less or equal to was be significant. The purpose of the chi-square statistic was done to test for association or dependence of contraceptive discontinuation on other factors.

3.6 Multivariate analysis

In testing for contraceptive discontinuation among women between ages 15- 49, there was a need to study the co-relationship between the continuous (like age) and discretized variables like parity, marital status, level of education, residence, region, religion, wealth quintile with the dependent variable.

This, therefore, implied the adoption of a binary logistic regression model to investigate the impact of all explanatory variables on the dependent variable. The model used is stated in equation 2.

$$\log\left[\frac{p_i}{1-pi}\right] = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \ldots + \beta_n x_n + \varepsilon_i \quad (2)$$

Where $\log\left[\frac{p_i}{1-pi}\right]$ is the dependent variable p_i is the probability that a woman discontinued using contraceptives, while $1-pi$ is the probability that a woman continued using contraceptives β_0 is the constant, $\beta_i^{'s}$ is the regression coefficients/odds ratios to be estimated, x are the independent variables while ε = co-factors outside the model. The purpose of this level of analysis was to predict the odds of discontinuing the use of contraceptives based on the values of the independent variables.

4 RESULTS

This section presents the findings of the study on contraceptive discontinuation among women aged 15-49 in Uganda.

4.1 Demographic and socio-economic characteristics of respondents

Table 1: Distribution of respondents by demographic and socio-economic factors

Variable	Frequency (n=4047)	Percent
Age of respondent		
15-19	863	21.3
20-24	862	21.3
25-29	707	17.5
30-34	576	14.2
35-39	451	11.1
40-44	333	8.2
45-49	255	6.3
Parity		
Zero	889	23.3
01-Five	2195	57.4
6+ Above	739	19.3
Marital Status		
Married	2639	65.2
Never/ Single	417	10.3
Formerly married	911	24.5
Level of Education		
Never attended	395	10.3
Primary	2257	59
Secondary	953	25
University / Technical	824	5.5
Place of Residence		
Urban	1093	27
Rural	2954	73
Region		
Central	1213	30
Eastern	983	24.3
Northern	967	23.9
Western	884	21.8
Religious Prohibition		
Religious Prohibition	1644	95.4
No Religious Prohibition	79	4.6
Wealth quintile		
Lowest	730	18.1
Lower	730	18.1
Middle	782	19.3
Higher	775	19.5
Highest	1027	25.4

Table 1 shows most of the women aged 15-49 had attained primary at 59% followed by those who had reached lower secondary at 25%, while the least had university / technical institute at 5.5%. This means that many women in this study stopped schooling in upper primary and are able to read and write.

73% of the women reside in rural areas where 30% are habitants of central Uganda. Many of these women had religious prohibition that is 95.4%. Lastly, by distribution, only 24% fall among the highest wealth quintile.

Table 2: Distribution of respondents by intermediate factors

Variable	Frequency	Percent
Fear of Side effects		
Yes	1306	75.8
No	417	24.2
Most preferred method or type		
Long lasting injectable	555	31.7
Long lasting single rod	374	21.4
Dissolving Implants	133	7.6
IUD Hormone	60	3.4
IUD No hormone	80	4.6
Permanent Method	311	17.8
Current method	200	11.4
Recent method	39	2.23
Exposure to Information (Radio)		
No Exposure to Information	832	21.8
Exposure to Information	2992	78.2
Lack of access to contraceptives / Too far		
Accessible	1699	98.6
Not Accessible	24	
Cost of Contraceptives		
No cost all	1699	98.6
Too much cost	24	
Method inconveniences		
Convenient to use	1693	98.3
Inconvenient to use	30	
Last time you had sex		
Days	1360	40.1
Weeks	683	20.1
Months	835	24.6
Years	514	15.2
Desired frequency of taking a method		
Daily	71	2.9
Weekly	112	4.6
Monthly plus	784	32.4
Yearly plus	1156	47.8
Once	256	10.6
Other	18	0.7
Visited a facility		
Visited a facility	2414	63.1
Did not visit a facility	1401	36.6
Health concerns		
Concerned	103	6
Not concerned	1620	94
Husband involvement		
Opposed	110	6.8
Not opposed	1613	93.6

Table 2 shows that 75.8% of women had fear for side effects, where 31.7% were using the long-lasting injection as the preferred method for family planning while 3.4% and 2.23% used IUD with hormone and recent method respectively. 78.2% of these women had heard on radio advertising family planning services. 98.6% of the women had access to contraceptives while 98.3% found no inconveniences using a method of contraceptives.

Again, 40.1% of the women had just had sex within a few days where most of them preferred taking contraceptives within a year plus at 47.8%. 63% had visited a health facility in the last 6 months, which is in connection with 94% of the women who had health concerns over using contraceptives. Lastly, 93.6 % of women aged 15-49 had support for their husbands.

4.2 Differentials in contraceptive discontinuation

Here, distributions of contraceptive discontinuation and the associations between contraceptive discontinuation and all other independent variables were examined. The results are presented in Table 3. The Pearson chi-square test was used.

Table 3: Frequency of respondents who discontinued using contraceptives (outcome variable)

Outcome Variable	Frequency	Percent
Contraceptive discontinuation	275	6.8
Continued using contraceptives	3772	93.2
Total	4047	100

Out of the 4047 women, 6.8% were confirmed to have discontinued using contraceptives. The findings are displayed in Table 3.

4.3 Contraceptive discontinuation

The estimates are suggested to vary across respondents' socio-demographics presented by cross-tabulation analysis and Chi-square test as provided in Table 4.

Table 4: Percentages of respondents who discontinued using contraceptives by socio-demographic characteristics

Variable	%	Contraceptive Discontinuation	Still using Contraceptives	Total
Age of respondent				
15-19	3.5	30	833	863
20-24	9.4	81	781	862
25-29	10.9	77	630	707
30-34	8	46	530	576
35-39	6	27	424	451
40-44	2.1	7	326	333
45-49	2.8	7	248	255
		Pearson = 62.889 p=0.000		
Parity				
Zero	3.8	34	855	889
01-Five	9.1	200	1995	2195
6+Above	7.9	41	698	739
		Pearson = 31.088 p=0.000		
Marital Status				
Married	16	211	2428	2639
Formerly married	11.2	29	388	417
Never married/ single	3.5	35	956	991
		Pearson = 28.633 p=0.000		
Level of Education				
Never attended	4.6	18	377	395
Primary	13.9	163	2094	2257
Secondary	13.4	73	880	953
University	19.8	21	190	211
		Pearson = 10.929 p=0.142		
Place of Residence				
Urban	6.9	75	1018	1093
Rural	6.8	200	2754	2954
		Pearson = 0.011 p=0.918		
Region				
Central	7.3	89	1124	1213
Eastern	9.4	92	891	983
Northern	3.5	34	933	967
Western	6.8	60	824	884
		Pearson = 27.183 p=0.000		
Religion				
No Religious Prohibition	6.8	112	1532	1644
Religious Prohibition	2.5	2	77	79
		Pearson = 2.236 p=0.135		
Wealth quintile				
Lowest	5.9	43	687	730
Lower	5.8	42	688	730
Middle	6.7	49	733	782
Higher	7.7	60	715	775
Highest	7.8	80	947	1027
		Pearson = 5.2524 p=0.262		

4.4 Demographic factors and contraceptive discontinuation

From Table 4, there is a positive relationship between age, parity, marital status, region, and contraceptive discontinuation with ($p < 0.05$) while there is a negative relationship between the level of education, religion, wealth quintile, place of residence and contraceptive discontinuation with ($p > 0.05$). Furthermore,

Contraceptive discontinuation depended on the age of the woman with the highest proportion 10.9% of women discontinuing being in the ages of 25-29. Parity of the woman, with the highest proportion 9% of women discontinuing being those who are have had 1-5 children However 6-10 parity women discontinued more at 5.9% compared to the other levels, woman's marital status, with the highest proportion 8.7% of women discontinuing being those who are currently living with a partner. This means that if a woman is living with a partner, the latter has an influence on the woman to stop using contraceptives while contraceptive discontinuation did not depend on the educational status of the woman, with the highest proportion 11% of women discontinuing being those who had attained vocational/ technical institutions of learning. Implying that a woman's level of education has no influence on her choice to stop or continue using contraceptives that is whether educated a woman will behave the same towards contraceptive use.

Also, contraceptive discontinuation did not depend on the place of residence of the woman. Whether urban or rural setting a woman will not make choices of stopping or continuing to use because of her place of residence, Contraceptive discontinuation did not depend on the religious affiliation of the woman, with the highest. This means that a woman's religion cannot prohibit her from discontinuing use of contraceptives.

Table 5: Percentages of respondents who discontinued using contraceptives by intermediate factors

Variable	%	Contraceptive Discontinuation (Yes)	Still using Contraceptives (No)	Total
Fear Side effects				
No	5.8	76	1230	1306
Yes	9.1	38	379	417
Pearson χ^2 = 5.5488 p=0.018				
Most preferred method or type				
Long lasting injectable	9.4	52	503	555
Long lasting single rod	12	45	329	374
Dissolving Implants	7.5	10	123	133
IUD Hormone	8.3	5	55	60
IUD No hormone	6.3	5	75	80
Permanent Method	13.8	43	268	311
Current method	1.5	3	197	200
Recent method	89.7	35	4	39
Pearson χ^2 = 271.5452 p=0.000				
Exposure to Information(radio)				
No Exposure	4.2	35	797	832
Exposure	8	240	2752	2992
Pearson χ^2 = 16.0729 p=0.000				
Cost of Contraceptives				
Too much cost	0	0	24	24
No cost all	6.7	114	1585	1699
Pearson χ^2 = 1.7245 p=0.189				
Access to contraceptives				
Accessible	12.5	3	21	24
Not Accessible	6.5	111	1588	1699
Pearson χ^2 = 1.3637 p=0.243				
Method inconveniences				
Convenient to use	16.7	5	25	30
Inconvenient to use	6.4	109	1584	1693
Pearson χ^2 = 4.9913 p=0.025				
Last time				
Days	7.5	100	1260	1360
Weeks	8.9	61	622	683
Months	11.5	96	739	835
Years	3.5	18	496	514
Pearson χ^2 = 29.9427 p=0.000				
Desired frequency of taking a method				
Daily	5.6	4	67	71
Weekly	11.6	13	99	112
Monthly plus	9.1	71	713	784
Yearly plus	9.5	110	1046	1156
Once	9.4	24	232	256
Other	5.6	1	17	18
Pearson χ^2 = 4.6336 p=0.592				
Visited a facility				
Visited	8.2	198	2216	2414
Did not visit	5.5	77	1324	1401
Pearson χ^2 = 10.4256 p=0.005				
Health concerns				
Concerned	12.6	13	90	103
No concern	6.2	101	1519	1620
Pearson χ^2 = 6.3936 p=0.011				
Husband involvement				
Involved	10	11	99	110
Opposed	6.4	103	1510	1613
Pearson χ^2 = 2.1773 p=0.140				

4.5 Intermediate factors and contraceptive discontinuation

From Table 5, results show a positive relationship between fear of side effects and contraceptive discontinuation ($p < 0.05$), with the highest proportion 9% of women discontinuing being those who had fear for side effects. As well nature of contraceptives, exposure to information (Radio), exposure to a method of inconveniences, last time a woman had sex, number of times visited at a health facility in the last 6 months and health concerns all had a positive relationship ($p<0.05$) with contraceptive discontinuation. Contraceptive discontinuation depended on Health concerns of the woman, with the highest proportion of women discontinuing at 12.62% being those with health concerns. Health concerns include those women with STIs and HIV, and such diseases will have an impact on women to stop using contraceptives.

4.6 Predictors of contraceptive discontinuation

The predictors of contraceptive discontinuation among women aged 15-49 was established through a binary logistic regression on the following potential independent variables of respondent's demographics, socioeconomics, unmet need, exposure to information, age at first sex, last sex value and preferred method.

The contribution of all variables represents women's likelihood of discontinuing the use of contraceptives in the model is displayed in Table 6. The table depicts the odds ratio (e) standard error (StdErr.) and significance level for coefficients (p-value). In all cases, unless stated, the level of significance is at 5%. The coefficient is interpreted as a chance of women discontinuing the use of contraceptives compared to the reference category of the variable when all other factors included in the model are held constant.

Table 6: Predictors of contraceptive discontinuation among women aged 15-49

Variable	Odds Ratio	Std. Err.	p-value
Age of respondent			
15-19	**1**		
20-24	2.11	1.14	0.166
25-29	3.70	2.09	**0.020**
30-34	4.60	2.9	**0.016**
35-39	1.83	1.36	0.413
40-44	1.13	1.06	0.893
45-49	0.56	0.96	0.736
Parity			
Zero	**1**		
01-Five	0.74	0.53	0.147
6+Above	0.45	0.63	0.57
Marital Status			
Married	**1**		
Formerly married	4.24	2.28	**0.007**
Never married/ single	2.23	1.27	0.158
Region			
Central	**1**		
Eastern	1.4	0.58	0.418
Northern	0.89	0.39	0.785
Western	1.65	0.71	0.246
Most preferred method or type			
Long lasting injectable	**1**		
Long lasting single rod	1.52	0.55	0.259
Dissolving Implants	0.70	0.42	0.553
IUD Hormone	0.68	0.56	0.633
IUD No hormone	1.39	0.95	0.634
Permanent Method	1.52	0.66	0.335
Current method	3.15	3.83	0.347
Recent method	132.87	160.78	**0.000**
Exposure to Information(radio)			
No Exposure	**1**		
Exposure	1.58	0.63	0.245
Method inconveniences			
Inconvenient to use	**1**		
Convenient to use	1.06	1.19	0.957
Last time			
Days	**1**		
Weeks	0.95	0.41	0.906
Months	1.26	0.45	0.514
Years	0.48	0.25	0.157
Visited a facility			
Did not visit	**1**		
Visited	0.87	0.29	0.666
Health concerns			
No concern	**1**		
Yes concern	2.74	0.05	**0.020**
Const.	0.056	0.5	0.001

Bold categories represent reference categories.

5 DISCUSSION

The demographic and socio-economic factors that were found significantly associated with contraceptive discontinuation were age and marital status in the multivariate analysis ($p<0.05$).

The study found that age significantly predicted contraceptive discontinuation among women. The odds of contraceptive discontinuation among women aged 25-29 were 3.7 times, higher compared to those of women aged between 15-19. In addition, the odds of contraceptive discontinuation among women aged 30-34 were 4.7 times higher compared to those of women aged between 15-19. These finding could be explained by the desire to create

families, choosing partners and having a stable relationship. This finding is in agreement with other studies.

Harris, 2013 says, younger women of higher parity, or unmarried, or not in union are the most likely to discontinue a method. (Barden-O'Fallon, Speizer, Cálix, and Rodriguez, 2011), Maslyanskaya et al., 2016 and Jacobstein et al., 2009 are in agreement with this study that age of a mother is an influential factor in contraceptive discontinuation simply because early reproductive years 25-29 and 30-34 years contributed significantly more often.

However, older women were not statistically significant to discontinue from using contraceptives and these include ages 35-49. This finding could better be explained by the achievement of the desired family size. In addition, women in this age group are almost reaching menopause. Harris (2013), in his article, confirmed this by stating that contraceptive discontinuation is due to increased fertility. Hence at 40-45, a woman is believed to be less fertile.

Regarding marital status, formerly married women (divorced or separated, widow or widower), the study found that marital status significantly predicted contraceptive discontinuation among women. The odds of contraceptive discontinuation among women who are formerly married women were 4.2 times, higher compared to those of women who are currently married. The results conform to the study by Tsui et al (2017), in his study on family planning who found that marital dissolution/separation was one of the factors with a significant association with contraceptive discontinuation.

In addition, Clark et al (2008) in his research on intimate partner violence reported an 11% of the husbands who refused their wives from taking contraceptives while 20% interference on contraceptive use by husbands, mothers in law and sisters in law.

The intermediate factors of women that were looked at in the multivariate level of analysis were; preferred method, listening to radio adverts about family planning, method inconveniences, last time a woman had sex, visiting a health facility and having health concerns. Out of these, only preferred method and health concerns had a significant predictor on contraceptive discontinuation.

In regard to the preferred method of contraceptives, the study found that the recent method significantly predicted contraceptive discontinuation among women. The odds of contraceptive discontinuation among women who preferred the recent method women were 132.9 times, higher compared to those of women who are long-lasting injectable. This study is in agreement with Azmat et al., 2012's study where teenagers and young women who among participants in the Contraceptive CHOICE Project, found that teenagers and young women had lower continuation rates of non-LARC methods when compared with older women.

Barden-O'Fallon et al (2011a) found a statistically significant association between health concerns and discontinuation which is in agreement in this current study were results showed that the health concerns significantly predicted contraceptive discontinuation among women. The odds of contraceptive discontinuation among women who had health women were 132.9 times, higher compared to those of women who had no health concerns.

6 CONCLUSIONS AND RECOMMENDATIONS.

The predictors of contraceptive discontinuation are the age of a woman, marital status, method of contraceptives and health concerns. In the findings, younger women are more likely to discontinue using contraceptives than older women. Formerly married women are more likely to discontinue using contraceptives than currently married women. Women who had health concerns are more likely to discontinue using contraceptives than women who have no health concerns.

The study recommends that contraceptives should be provided through different age groups/cohorts as this will lead to effective use of contraceptives, which will reduce the gap created by discontinuation and while adopting and applying the above-mentioned recommendations, emphasis should be put on urban women most especially between 25-35 years.

7 FURTHER STUDIES

Future researchers should conduct Focus Group Discussions (FGD) and Key Informants (KI) interviews to explore qualitative reasons of contraceptive discontinuations among women in Uganda.

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