Pattern and determinants of contraceptive use among the Muslim women in Wajir and Lamu counties in Kenya: A cross-sectional study

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Abstract

Improving access to family planning (FP) is associated with positive health benefits that includes averting nearly a third of all maternal deaths and 10% of childhood deaths. Kenya has made great strides in improving access to family planning services. However, amid this considerable progress, regional variation has been noted.

Methods

We conducted a cross-sectional study that involved 663 Muslim women of reproductive age (15–49 years) from Wajir and Lamu counties in Kenya between March and October 2018. Eligible women were interviewed using a semi-structured questionnaire containing socio-demographic information and history of family planning use. Simple and multiple logistic regression were used to identify determinants of family planning use. The results were presented as Crude Odds Ratio crude (COR) and Adjusted Odds Ratio (AOR) ratios at 95% confidence interval. A p-value of 0.05 was considered statistically significant.

Results

Of the 663 Muslim women of reproductive age consenting to participate in the study, 51.5%, n = 342 and 48.5%, n = 321 were from Lamu and Wajir County, respectively. The prevalence of women currently using contraceptive was 18.6 percent (n = 123). In Lamu, the prevalence was 32.8%, while in Wajir, it was 3.4 percent.

The determinants of current contraceptive use in Lamu include; marital status, age at marriage employment status, discussion with a partner on FP, acceptability of FP in Culture, and willingness to obtain information on FP. While in Wajir, determinants of current contraceptive use were education, Family planning allowed in Islam.

Conclusions

Our study found moderately high use of contraceptives among Muslim women of reproductive age in Lamu county and very low contraceptive use among women in Wajir. There is need for family planning programs to address issues of male involvement in reproductive health given the patriarchal nature of the two communities. It is critical for the government to invest in women and girls education to enhance their ability to make informed decisions; particularly in Wajir where FP uptake is low with low education attainment. Further, our findings highlight the need for culturally appropriate messages and involvement of religious leaders to demystify the myths and misconception around family planning and Islam.

Introduction

Globally there has been clear commitment to improve access to quality family planning services. The 2030 agenda for sustainable development has two relevant targets to family planning under the broader goals of health and wellbeing (SDG 3) and on gender equality and the empowerment of women and girls

(SDG 5) (1). Despite impressive progress globally, contraceptive use in Africa is worryingly low at 36% (1,2) compared to the Caribbean, North America, and Latin America that have a prevalence rate of over 70% (1)

The public health importance of family planning is well documented. Improving access to family planning in countries with high fertility rates can potentially reduce poverty and hunger and avert 32% of all maternal deaths and nearly 10% of childhood deaths (3). Family planning has benefits that go beyond the health sector. Ensuring couples and individuals have a choice to decide how many and how frequent they will have children will considerably contribute to women's empowerment, the achievement of universal primary schooling, and long-term environmental sustainability (4)

Kenya has made great strides in improving access to family planning services. The number of women using contraceptives has tremendously increased over time. In the past decade, the Contraceptive Prevalence Rate (CPR) increased from 32% in 2003 to 39% in 2009 and 58% in 2014 [4]. Despite the increase in CPR, there has been limited change in unmet need for Family Planning (FP), from 28% in 1998 to 26% in 2009, and 18% in 2014 (5). In spite of this progress, there are huge regional variations in CPR. The CPR in some of the regions in Kenya (including the central region with a CPR of 76%) is comparable to that of developed countries; however, some regions (such as North Eastern) have recorded CPR as low as 3.4% (5). Wajir County has a CPR of 2%, which is the lowest in the country. On the other hand, Wajir county has the highest TFR in Kenya of eight children per woman (5) while Lamu County has a CPR of 42% and a TFR of 4 children per woman (5).

Studies have examined factors that determine the use of FP. The predominant factors include age, education, place of residence; social-economic status; spousal communication and religion (5–8). Several studies have established that FP utilization is highest among women who are educated and those aged 25–35 (9–11). It has also been cited that girls education has a knock-on effect on age at first marriage, entrance into the paying labour market, and still education correlates with fertility reduction (12–14). Similarly, women who are economically empowered or who are employed or have a source of income are more likely to use FP (8,15). Additionally, evidence shows that spousal communication has a positive impact on FP use (16–18).

Several studies have been conducted to establish whether contraceptive use differed with religious beliefs. While this has been the centre of debate with regard to FP use, a qualitative study conducted in Lamu and Wajir County shows that there is a widespread misinterpretation of Islam with regards to the permissibility of contraceptive use (19). Studies have shown that Islam permits family planning; it is evident from the various fatwas[10] (declarations) in the Muslim countries and evidence from various sources of Islamic sharia[11] (law) that family planning is permitted in Islam (20,21). Despite the evidence on the permissibility of contraception in Islam, there is still a misconception among many Muslim communities that Islam does not permit contraception (19,20,22).

Apart from the national surveys, such as demographic health surveys, there is a paucity of data on determinants of family planning uptake among the Muslim community in Kenya. Furthermore, the Kenya

Demographic Health Survey (KDHS) does not provide a detailed analysis of why the uptake of FP is so low among Muslims. With this background in mind, this study sought to establish the determinants of contraceptive use in the two predominant Muslim settings of Lamu and Wajir that have varying contraceptive uptake. Studies have shown that uptake of family planning could be influenced by religious beliefs and cultural practices. Understanding the determinants of contraceptive use in these settings is important for informing the design of culturally appropriate family planning programmes.

[10] Fatwa- authoritative legal opinion or learned interpretation by a qualified jurist regarding issues pertaining to Islamic Shariah.

[11] **Sources of Islamic law (Shariah):** The primary sources of Shariah are the Quran (Islam's holy book) and the Sunnah, the sayings and deeds of the Prophet Mohammad and his Companions. Also based on the Quran and Sunnah but subordinate to them are two other sources for Shariah: the consensus of Islamic jurists (ijmae) and analogy (qiyas).

Methods

Study Design And Setting

This was an analytical cross-sectional household survey conducted between March and October 2018, in Wajir and Lamu counties. Two sub-counties were purposefully selected in each county, namely Wajir East and Wajir North in Wajir County, and Lamu West and Lamu East in Lamu County.

Study Setting

Wajir county is ranked as one of the poorest in the country with as many as 76% of its residents having low education levels and only 4% have completed secondary level education or higher (23). In Lamu, nearly a third of the county's residents live below the poverty line with only 13% having completed secondary education (23). Lamu County is a predominantly coastal community of the Swahili ethnic group while Wajir County is inhabited primarily by pastoralist Somalis.

Sample Size And Sampling Procedure

Data collection involved administration of a semi structured questionnaire to female respondents aged 15–49 years in their households (Additional file 1). We calculated sample size using formulae shown below adopted from UNICEF's Multiple Indicator Cluster Surveys (MICS) (24)

$$n = \frac{4 \times r \times (1 - r) \times deff}{(RME \times r)^2 \times pb \times AveSize \times RR}$$

Where n is the required sample size (number of households); 4 is a factor to achieve the 95 percent level of confidence; r is the predicted or estimated value of the indicator in target population; $deff$ is the design effect; RR is the response rate; pb is the proportion of the target subpopulation in total population (upon which the indicator, r , is based); $AveSize$ is the average household size (that is, average number of persons per household); RME is the relative margin of error to be tolerated at the 95% level of confidence; Currently, the target for the RME is generally 12%. The total sample size for all domains was 350 in each county.

Sampling Strategy

The study used multi-stage sampling in combination with stratified and systematic random sampling to selected the respondents. In the first stage, each sub-county was stratified into constituent wards, sub-locations and further into villages. The village comprised the primary sampling units (PSU). From each village, we obtained a list of all households from the chief's office. In the second stage, households were selected from the household listing in each selected primary sampling units (PSU) using systematic sampling with a random start. All eligible household members aged 15–49 within the selected households were eligible for the study. However, only one woman of reproductive age was interviewed per household. In households where more than one woman of reproductive age 15–49 resides, a Kish grid[12] was used to select one respondent from that household. We excluded those who did not provide consent, and women aged < 18 (unless they were emancipated minors) or > 49 years old. Although minors below 18 were part of the inclusion criteria there were no minors interviewed.

Data Management And Statistical Analysis

Data were double entered and cleaned in epi info™ 7 before statistical analyses. All analyses were conducted in STATA software version 15 (StataCorp. 2017). Descriptive statistics were used to summarise data whilst tables and figures were used for data presentation. Binary and multiple logistic regression analysis was used to identify the determinants of family planning use. Odds ratio with their corresponding 95% Confidence Intervals were used to determine magnitude and directions of the statistical associations in both bivariate and multivariable analyses. P-value was considered statistically significant at 5% level.

Outcome Variable

The study had one outcome variable which is current use of modern contraceptive method. They were coded as 1 “current use” and 0 otherwise. Current use was defined as women who were currently using any modern contraceptive method.

Explanatory Variables

The explanatory variables were chosen based on expert opinion or prior knowledge. They included; the age of the participant, level of education, marital status, age at marriage, employment status, discussion with a spouse, ever given birth, family planning awareness, number of living children, acceptability in culture, FP allowed in Islam and willingness to obtain information on FP.

Data Analysis

A descriptive analysis was carried out to establish the level of current use, method preference and reasons for non-use after which frequency and 95% confidence intervals were reported. The binary logistic regression analysis was used to determine the determinants associated with family planning use. Crude Odds ratios (COR) and Adjusted Odds Ratio (AOR) with their corresponding 95% confidence intervals were used to determine the magnitude and directions of the statistical associations in both simple and multivariable analyses. A p-value of < 0.05 was considered statistically significant.

Ethical Considerations

Ethical approval for the study was obtained from the Research Ethics Committee of the Aga Khan University, Nairobi (2016/REC-56 (v3)). We also obtained a research permit from the National Commission for Science, Technology and Innovation (NACOSTI/P/18/14340/20946) to facilitate the conduct of research activities in the community. All participants provided written informed consent. Regarding minors below the age of 18 years only married adolescents, who are considered as emancipated, were included.

[12] The Kish grid is a method for selecting members within a household to be interviewed. It uses a pre-assigned table of random numbers to find the person to be interviewed.

Results

Socio-demographic and economic characteristics of the study participants

Of the 663 women of reproductive age consented to participate in the study, 342 (51.5%) and 321 (48.5%) came from Lamu and Wajir County respectively. The median age of study participants was 30 years (IQR, 24–35) in Lamu and 28 (IQR, 25–34) in Wajir. The majority of the study participants (Lamu 51.6% vs Wajir 48.4%) in the two Counties were aged between 25 to 34 years of age. There was a significant difference by education level with the majority (72.2%) of the participant in Lamu County having secondary education and above while in Wajir County majority (54.2%) had no formal education. In Lamu 127 (44.2%) were married at the age of 15–19 years while in Wajir majority were married at the age of 20 to 24 years. A significant difference in the distribution of study participants by age group (Table 1)

Table 1
Socio-demographic and economic characteristics of study participants (N = 663).

	County		P-value
	Lamu n=(342)	Wajir n= (321)	
Characteristic			
Median (IQR), years	30 (24–35)	28 (25–34)	0.427
Age categories (years):	n (%)	n (%)	
18–24	97 (28.6)	79 (24.6)	0.126
25–34	154 (45.0)	168 (52.3)	
35–44	80 (23.3)	70 (21.8)	
45+	11 (3.2)	4 (1.2)	
Highest level of education:			
None/Madrassa	25(7.31)	171 (53.3)	< 0.0001
Primary	70 (20.5)	71 (22.1)	
Secondary and above	247 (72.2)	79 (24.6)	
Marital status:			
Married	287 (83.9)	265 (82.6)	0.638
Not Married	55 (16.1)	56 (17.4)	
Age at marriage –years (n = 552):			
<15	17 (5.9)	0 (0.0)	< 0.0001
15–19	127 (44.2)	84 (31.7)	
20–24	109 (37.9)	129 (48.6)	
25–34	33 (11.5)	52 (19.6)	
35+	1 (0.3)	0 (0.0)	
Age at married (Mean ± SD, year)	19.7 (3.7)	21.4 (3.3)	< 0.0001
Currently employed:			
Yes	58 (16.9)	52 (16.2)	0.793
No	284 (83.1)	269 (83.8)	
**values in bold are statistically significant at p-value<0.05			

Fp Use By Methods

Figure 1 shows the type of family planning methods used by the participants county of residence. Injectable (61.8% vs. 38.6%) were commonly used in Lamu than Wajir whereas pills were commonly used in Wajir (66.7%). Moreover, implants were mostly used in Lamu (21.6%) than Wajir (1.8%). Of the 271 participants who reported to have ever used a family planning method(s), 14 (2.1%) reported using dual contraceptives (i.e. condoms and any other modern contraceptive method). Nonetheless, about 23% (61/271) of the study participants reported using a long-term modern contraceptive method.

Percentage Of Women Currently Using Family Planning

Table 2 shows the current use of family planning in the two study sites. The percentage of women currently using family planning was 18.6% (n = 123). In Lamu, the percentage was 32.7% while in Wajir, it was 3.4 per cent. In Lamu, current use of FP was highest among women between 25 and 34 years with a percentage of 42.9(35.2–50.8), while in Wajir, FP use was prevalent among women above 45 years 25.0(2.4–82.1) per cent. In Lamu, current FP use was highest among women who had attained secondary education with a percentage of 34.3(28.9–40.2), this also applied to Wajir 9.8(4.9–18.4). The current use of FP was highest among married women in both counties; 35.2(29.9–40.9) in Lamu and 3.8(2.0–6.9) in Wajir. In Lamu and Wajir, women who got married at the age of 25 and 34 had the highest prevalence of current use of FP 48.5(31.9–65.4) and 5.8(1.8–16.6), respectively. In both counties, more employed women were currently using FP compared to unemployed women.

Table 2
Percentage of women currently using Contraceptive in Lamu and Wajir

Percentage of women currently using contraceptive in Lamu and Wajir					
		County			
		Lamu (n = 342)		Wajir (n = 321)	P-value
Current FP (Overall % prev)		32.8		3.4	
Variable					
Age categories (years):		n (%)		n (%)	
18–24	n = 342	24.7(17.1–34.4)	n = 321	1.3(0.2–8.6)	
25–34		42.9(35.2–50.8)		5.4(2.8–10.0)	0.02
35–44		24.2(16.4–34.1)		0	
45+		0		25.0(2.4–82.1)	
Highest level of education:					
None/Madrassa	n = 342	8.3(1.1–43.7)	n = 321	1.2(0.3–4.6)	
Primary		30.5(20.0-43.5)		1.5(0.2–9.9)	< 0.0001
Secondary and above		34.3(28.9–40.2)		9.8(4.9–18.4)	
Marital status:					
Married	n = 342	35.2(29.9–40.9)	n = 321	3.8(2.0-6.9)	0.021
Not Married		20.0(11.4–32.8)		1.8(0.2–11.9)	
Age at marriage –years :					
<25	n = 342	33.6(28.0-39.7)	n = 321	3.3(1.6–6.8)	
25–34		48.5(31.9–65.4)		5.8(1.8–16.6)	0.634
> 35		19.6(11.1–32.3)		1.8(0.2–11.9)	

**values in bold are statistically significant at p-value <0.05

Currently employed:					
Yes	n = 342	53.4(40.5–65.9)	n = 321	5.8(1.8,16.6)	
No		28.5(23.5–34.1)		3.0(1.5,5.9)	< 0.0001
Ever given birth:					
Yes	n = 342	37.9(32.4–43.8)	n = 321	3.8(2.0-7.2)	
No		8.3(3.5–18.7)		2.4(0.6–9.1)	< 0.0001
Number of living children :					
0	n = 235	28.6(6.3–70.4)	n = 215	16.7(3.9–49.6)	
1		34.6(25.0-45.6)		3.6(0.9–13.7)	0.007
2–4		48.3(39.4–57.4)		5.4(2.2–12.4)	
5 or more		24.1(11.8–43.1)		3.6(0.9–13.7)	
Currently pregnant:					
Yes	n = 342	10.4(5.0-20.5)	n = 321	3.5(0.9–13.2)	< 0.0001
No		38.2(32.6–44.1)		3.4(1.8–6.4)	
The current pregnancy is first pregnancy :					
Yes	n = 67	0	n = 57	0	0.029
No		14.6(7.0–28.0)		5.7(1.4–21.0)	
Ever discussed with partner on FP use:					
Yes		46.2(39.3–53.2)	n = 321	6.4(2.7–14.6)	< 0.0001
No	n = 342	14.5(10.0-21.2)		2.5(1.1–5.4)	

**values in bold are statistically significant at p-value <0.05

Aware on FP methods:					
Yes	n = 342	33.6(28.7– 39.0)	n = 321	4.8(2.4–9.3)	< 0.0001
No		19.1(7.1– 41.9)		2.0(0.6–5.9)	
FP acceptable in culture					
Yes	n = 341	47.7(40.7– 54.8)	n = 257	5.8(2.8– 11.7)	
No		13.5(8.9– 20.1)		2.2(0.7–6.7)	0.001
FP is allowed in Islam					
Yes	n = 324	37.0(30.0– 44.6)	n = 171	13.4(7.1– 24.0)	
No		29.6(23.0– 37.2)		1.6(0.4–6.3)	0.029
Willingness to obtain Information					
Yes	n = 342	71.2(62.0– 78.9)	n = 321	6.2(3.2– 11.5)	
No		14.3(10.3– 19.4)		1.1(0.3–4.5)	< 0.0001
**values in bold are statistically significant at p-value <0.05					

In Lamu, the percentage of employed women currently using FP was 53.5(40.5–66.0), while in Wajir, it was 5.8(1.8–16.6). Women who had ever given birth in Lamu and Wajir were the highest group currently using FP 37.9 (32.4–43.8) vs 3.8 (2.0–7.2) per cent, respectively. In both counties, women who discussed FP use with their partners were current users of FP. In Lamu, the percentage of women currently using FP and discussed this with their partners was 46.2 (39.3–53.2), while in Wajir, it was 6.4 (2.7–14.6). In both counties, women who were aware of FP methods were currently using FP. The percentage of women who were aware and were currently using was 33.6 (28.7–39.0) per cent in Lamu and 4.8 (2.4–9.3) in Wajir. We found that, the highest prevalence of current use of FP was among women who stated that FP use was acceptable in their culture; it was 47.7(40.7–54.8) per cent in Lamu while in Wajir, it was 5.8(2.8–11.7) per cent. In Lamu, the current use of FP was highest among women who stated that the use of FP is allowed in Islam is 37.0(30.0–44.6). Similarly, in Wajir, current use was highest among women who stated that FP was allowed in Islam, 13.4(7.1–24.0) per cent. The highest prevalence in Lamu and Wajir was among women who were willing to obtain information regarding contraceptives 71.2(62.0–78.9) percent and 6.2(3.2–11.5) percent in Lamu and Wajir respectively.

Reasons For Family Planning Non-use

A total of 392 (59.13%) study participants reported they have never used any family planning methods. The common reasons for not using family planning methods were: religion disallowing it (70.6%), the husband refused to use (22.14%), and mother-in-law refused (5.73%). Figure 2 shows the reasons for never using family planning methods.

Determinants Of Current Contraceptive Use

Table 3 shows the results of a logistic regression analysis of determinants of current FP use. In Lamu, a woman married at 35 years and above is 0.23 times less likely to be a current user compared to women married below 25 years (AOR = 0.23 95% CI = 0.08–0.68). The odds of the current use of FP is significantly higher for those in current employment compared to the unemployed (AOR = 3.06 95% CI = 1.30–7.19). Those who have even discussed FP with their partners are more likely to be current users of family planning (AOR = 2.63 95% CI = 1.25–5.53). Women who believed that family planning is acceptable in their culture are more likely to be current users of family planning compared to those who don't (AOR = 5.00 95% CI = 2.38–10.49). The odds of the current use of FP is significantly higher for those who are willing to obtain information compared to those not willing to obtain information (AOR = 20.04 95% CI = 9.77–41.10). In Wajir, factors identified as determinants of the current use of family planning were education level, FP allowed in Islam and willingness to obtain information. A woman with secondary level of education and above is 7.39 times more likely to be a current family planning user compared to women with no education (AOR = 7.39 95% CI = 1.42–38.60). Women who believed that family planning is allowed in Islam are more likely to be current users of family planning compared to those who don't (AOR = 9.47 95% CI = 1.98–45.21). The odds of the current use of FP is significantly higher for those who are willing to obtain information compared to those not willing to obtain information (AOR = 2.88 95% CI = 0.52 = 15.94).

Table 3
Determinants of current use of contraception (n = 663)

	Lamu		Wajir	
	Outcome		Outcome	
Variable	COR(95% CI)	AOR(95% CI)	COR(95% CI)	AOR(95% CI)
Age category (years):				
< 25	REF	REF	REF	REF
25–34	2.28(1.30,4.00)*	1.84(0.82,4.11)	4.42(0.55,35.47)	
35+	0.97(0.50,1.89)	0.61(0.24–1.60)	1.07(0.07,17.40)	
Level of education:				
None/Madrassa	REF	REF	REF	REF
Primary	4.83(0.58–40.27)		1.26(11.25–14.14)	0.69(0.06–8.23)
Secondary and above	5.75(0.73–45.20)		9.14(1.89–44.06)*	7.39(1.42–38.60)*
Marital status:				
Not married	REF	REF	REF	REF
Married	2.17(1.07,4.39)*		2.16(0.27,17.20)	
Age at marriage				
< 25	REF	REF	REF	REF
25–34	1.86(0.90,3.86)	1.09(0.34–3.56)	1.80(0.45,7.22)	
35+	0.48(0.24,0.98)*	0.23(0.08–0.68)*	0.54(0.64,4.44)	
Currently employed:				
No	REF	REF	REF	REF
Yes	2.88(1.62,5.12)*	3.06(1.30,7.19)*	2.00(0.51,7.79)	
Ever discussed with partner on FP use:				
No	REF	REF	REF	REF

Values in * show significance at p-value <0.05

Yes	5.07(2.95,8.70)*	2.63(1.25–5.53)*	2.71(0.80,9.12)	
Ever given birth:				
No	REF	REF	REF	REF
Yes	6.73(2.61,17.33)*	2.56(0.78–8.48)	1.62(0.34,7.65)	
Number of living children (N = 431):				
0	REF	REF	REF	REF
1	1.32(0.24–7.25)		0.19(0.02–1.50)	
2–4	2.34(0.44–12.52)		0.28(0.05–1.66)	
5 or more	0.80(12.54–5.05)		0.19(0.02–1.50)	
FP awareness				
No	REF	REF	REF	
Yes	2.15(0.71,6.56)		2.5(0.65,9.60)	
FP acceptable in my culture:				
No	REF	REF	REF	REF
Yes	5.83(3.37–10.10)*	5.00(2.38–10.49)*	2.72(0.69–10.77)	
FP is allowed in Islam:				
No	REF	REF	REF	REF
Yes	1.40(0.88–2.22)		9.47(1.98–45.21)*	8.36(1.55–45.01)
Willingness				
No	REF	REF	REF	REF
Yes	14.81(8.53–25.72)*	20.04(9.77–41.10)*	5.76(1.22–27.09)	2.88(0.52–15.94)
Values in * show significance at p-value <0.05				

Discussion

This study aimed to determine the pattern and determinants of contraceptive use among women in Wajir and Lamu County in Kenya. The percentage of the current use of FP in Lamu was 32.8% while in Wajir, it was 3.4% percent. This finding is similar to the 2014 KDHS results (5)

The findings illustrate that current contraceptive use in Lamu was significantly influenced by; employment, discussion of Family Planning with a partner and ever given birth. In Wajir, the significant factors were; education, discussion with partner; FP allowed in Islam and willingness to obtain information on FP.

The study results also revealed that in both counties injectable were the most common method of contraception (54.6 percent). This was then followed by pills (46.9 percent) and implants (18.1 percent). These findings are similar to the KDHS 2014 report and a study conducted in Ghana that revealed that injectable are the most common family planning method among women (5,25). The preference for injectable could be attributed to lack of partner support and the fact that injectable can be used covertly. In one qualitative study conducted in Ghana, respondents reported that uptake of family planning is associated with promiscuity and this could explain why most women in this study preferred the use of injectable (26)

The descriptive analysis shows that 59.13% of the respondent indicated that they have never used any FP method. The highest proportion of those who indicated to have never use any contraceptive method were from Wajir county 79.13%. The leading reason for non-use were; religion disallowing FP use (70.6%) and husband's disapproval (22.14%). The notion that Islam does not permit the use of FP could be one of the reasons for low contraceptive use among women in Wajir with 68% of the respondent indicating Islam is against the use of FP. The misconception that Islam does not allow FP use has been documented in other studies (27–30). The influence of men in women's ability to decide whether to use contraception is evident from our results. This depicts the dominance of men in decision making in patriarchal African society. Lamu and Wajir County are regions that have highly placed patriarchal systems and values that do not support the independence and free decision making of women regarding their reproductive health. These findings are comparable to an earlier qualitative study conducted in the two counties (19,28).

Our results show that, married women in Lamu are nearly three times more likely to be current users of family planning compared to non-married women. This is consistent with a study conducted in Kenya, Uganda and the 2014 KDHS report that states that 53 per cent of currently married women using contraceptives (5,17,31). Contraceptive use is high among married women because they are more likely to be sexually active. In addition to that, they are at high risk of getting unplanned pregnancies.

The odds of current use of family planning is higher among women who are currently employed in Lamu compared to those who are unemployed. This is consistent with other studies conducted that focused on the determinants and prevalence of contraception use among employed and unemployed women (6,32). Employed women are more likely to use contraception because they have more negotiation power on contraceptive use.

Our findings demonstrate that in both study sites, women who discussed FP with their partners are more likely to be current users of contraceptive. Our results are in agreement with several studies that show direct relation between FP use and discussion with partner (25,33,34). A study done in southeast Ethiopia revealed that opposition to modern family planning by spouses determined whether they used contraception (35).

The findings revealed that in Wajir, women who were above the secondary level of education were more likely to be current users of FP compared to those who had not. This is consistent with several studies (6,12). These results could be explained by the fact that, educated women are more informed about their reproductive health, and the benefits and the side effects that come with the use of family planning. Educated women are also empowered, giving them more authority to make decisions regarding their reproductive health. Wajir county has one of the lowest educational attainment levels in Kenya with as many as 76% of its residents having low education levels and only 4% have completed secondary level education or higher (23). The low education level particularly for women and girls could be one of contributing factors to low uptake of Family planning in Wajir county.

The results also revealed that in Lamu acceptability of FP in culture was a key determinant of FP utilization while in Wajir permissibility of FP in Islam was a key determinant of FP uptake. Many studies and analytical reviews show that Islam allows the use of family planning within the confines of marriage. These studies used the sources of Islamic Sharia to justify the permissibility of FP (20,36,37).

Although our study has unearthed some key factors that determine Family planning uptake among Muslim women in the two counties, it is worth noting that this study had its own limitations. Like many other cross sectionals studies, we were not able to measure cause and effect relationship. However, despite this shortcoming, the paper provides an interesting contribution in understanding the pattern and determinates of family planning uptake among Muslim communities in an area that has not been fully explored in the Kenyan context.

Conclusion And Recommendation

We found moderately high use of contraceptive use among women of reproductive age in Lamu county and very low current contraceptive use among women in Wajir. Discussion with partner has come out as a key determinant for FP use in both counties. These findings reflect the need for family planning programs to address issues of male involvement in reproductive health programmes given the patriarchal nature of the two communities. Education has shown to be a key determinant in decision-making on contraceptive use particularly in Wajir which has one of the lowest education attainment levels in the country, and thus it is important for the national and county government to invest in education, particularly for women and girls to enhance their ability to make informed decisions. Further, our findings highlight the need to develop culturally appropriate messages and involvement of religious leaders to demystify the myths and misconception around family planning and Islam. It worth exploring inter-

county learning and exchange programme for Wajir County to learn from Lamu given the homogeneity in religious beliefs.

Abbreviations

CPR: Contraceptive prevalence rate;

DHS: Demographic and health survey;

FP: Family Planning;

KDHS: Kenya demographic and health survey;

MICS: Multiple Indicator Cluster Survey;

NACOSTI: National Commission for Science, Technology and Innovation

TRF: Total fertility Rate.

UNFPA: United Nations Population Fund

Declarations

Ethics approval and consent to participate

Ethical approval for the study was obtained from the Research Ethics Committee of the Aga Khan University, Nairobi (2016/REC-56 (v3)). We also obtained a research permit from the National Commission for Science, Technology and Innovation (NACOSTI/P/18/14340/20946) to facilitate the conduct of research activities in the community. All participants provided consent after being informed about the objective of the study.

Consent for publication

Not applicable

Availability of data and materials

The datasets used to analyze the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Author's contribution

BA conceptualized and designed the study. As principal investigator, BA was responsible for all aspects of data collection analysis, and writing of the initial manuscript draft. MT, GS, PG and JO provided overall guidance in the interpretation of the findings, reviewed the manuscript and edited drafts and added substantive intellectual content with particular attention on how it adds to the body of knowledge. VW supported with statistical analysis and interpretation. All authors read and approved the final manuscript.

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Ethics approval and consent to participate

The study was conducted in accordance with the principles of the Declaration of Helsinki. Ethical approval for the study was obtained from the Research Ethics Committee of the Aga Khan University, Nairobi (2016/REC-56 (v3)). We also obtained a research permit from the National Commission for Science, Technology and Innovation (NACOTI/P/18/14340/20946) to facilitate the conduct of research activities in the community. All participants provided written informed consent after being informed about the objective of the study.

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Figures

Figure 1

Types of family planning methods used by county of residence (N=271).

Figure 2

Reasons for Non-use

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