Prevalence and Determinants of Covert Contraceptive Use in Kenya: a Cross-Sectional Study

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Research article

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Abstract

Background: Family planning (FP) is a key intervention for preventing unplanned pregnancies, unsafe abortions, and maternal death. Involvement of both women and their partners promotes contraceptive acceptance, uptake and continuation, couple communication and gender-equitable attitude. It is a key strategy for addressing about 17.5% of the unmet needs in FP in Kenya. This study assessed the prevalence and determinants of covert contraceptive use (CCU) in Kenya.

Methods: We used data from the sixth and seventh rounds of the performance monitoring for accountability surveys. We defined CCU as "the use of contraceptives without a partner's knowledge". We used frequencies and percentages to describe the sample characteristics and the prevalence of CCU and assessed the determinants using bivariate and multivariable logistic regressions.

Results: Of the 3,892 married women using contraceptives included in this study, 62.9% were 20–34 years, 65.4% lived in rural areas, 51.3% had primary education and 82.4% had two or more children. The mean age at first sexual encounter was 17.3 years (standard deviation: 3.0). The prevalence of CCU was 12.2% (95% CI: 10.4%–14.2%) and was high among 35–49 years (12.8%), uneducated (22.3%) and poorest (18.2%) women. Siaya (22.9%), Kericho (16.7%) and Kakamega (13.1%) counties had the highest prevalence of CCU. Injectables (53.3%) and implants (34.6%) were the commonest methods among women who practice CCU. County of residence, education, wealth, parity, and age at sexual debut were associated with CCU.

Conclusion: About one in 10 married women in Kenya use contraceptive covertly, with injectables and implants being the preferred methods. Our study highlights a gap in partner involvement in FP and calls for efforts to strengthen their involvement to increase contraceptive use in Kenya while acknowledging the rights of women to make independent choices.

Introduction

Kenya has a high fertility rate at 3.9 births per woman [1], and a teenage pregnancy rate of 18% [1] and 120,000 unsafe abortions annually [2]. Family planning (FP) is a key intervention for preventing unplanned pregnancies, unsafe abortions, and maternal death [3]. In 2014, the modern contraceptive prevalence rate (mCPR) was 53%, with about one-fifth of the FP needs still unmet [1]. The mCPR is expected to increase to 58% by 2020 [4].

In line with the sustainable development goal 3, Kenya is implementing FP programmes aimed at universal access to sexual and reproductive health services by 2030. Most interventions have been targeted towards women, who are the primary users of contraceptives. However, involving both women and their partners is a strategy that promotes contraceptive acceptance, uptake and continuation [5, 6], couple communication and gender-equitable attitude [7]. Male involvement in FP has remained relatively low in Kenya [8], with the lack of their involvement resulting in opposition to self or partner's FP use [5, 8,

9]. In South Africa [9] and Nigeria [5], male opposition to contraceptives has been attributed to their low level of knowledge on FP, physical violence and dominance.

Earlier studies have found an association between women empowerment and autonomy and their use of contraceptives [10–12]. High education and wealth empower women to decide on their reproductive health including the uptake of FP. However, women have resorted to using contraceptives without their husbands/partners knowledge due to their opposition to contraceptives [5, 8, 9], fear of reprisal from the partner [13] and religious beliefs [14]. In sub-Saharan Africa, between 2.6% and 20.2% of women use contraceptives covertly [15]. Covert contraceptive use (CCU) is common in male-dominated settings where women lack the autonomy to make choices on their health [16].

To address the unmet need for FP, Kenya is promoting partner involvement in FP. However, there is a paucity of evidence on the involvement of male partners in FP. An earlier study found that nine per cent of married women in Kenya use contraceptives without their partners' knowledge [15]. While CCU increases overall contraceptive prevalence rate, it could indicate barriers women encounter in deciding and using FP methods. Hence, there is a need to ascertain the extent of CCU in Kenya and its determinants to inform FP interventions and policies. This study assessed the prevalence and determinants of CCU in Kenya.

Methods

Data source and study population

We utilised data from sixth [17] and seventh [18] rounds of Kenya's performance monitoring for accountability (PMA) surveys. The surveys used a multi-stage stratified cluster design that involved urban-rural and 11 counties (Nairobi, Bungoma, Kericho, Kiambu, Kilifi, Kitui, Nandi, Nyamira, Siaya, Kakamega and West Pokot) as strata, 151 enumeration areas (EA) sampled from the KNBS master sampling frame, 42 randomly selected households in each EA. All consenting females 15 to 49 years in the selected household were interviewed. Round 6 included 6,106 households and 5,876 females (99% response rate) while round 7 had 6,097 households and 5,671 females (99.1% response rate). Data were collected by trained interviewers using standardised questionnaires in November and December of 2017 and 2018 [17, 18].

Measures

CCU was defined as “*the use of contraceptives without a male partner's knowledge*” [19]. It was measured based on the question: “*Does your partner/husband know that you are using family planning?*” among women currently using FP and in-a-union.

The independent variables were selected based on a review of the literature on FP and the availability of the variables in the dataset. They included the county of residence (Nairobi, Bungoma, Kericho, Kiambu, Kilifi, Kitui, Nandi, Nyamira, Siaya, Kakamega and West Pokot), residence (rural/urban) [20, 21], age in years (15–19, 20–34 and 35–49) [21], education levels (no formal, primary, secondary and tertiary) [21–

23], wealth quintiles (poorest, poorer, middle, richer, richest) [20], parity (0, 1, 2–3 and 4+) [23], desire for more children (yes/no/infertile) [24], and age at sexual debut in years [25].

Statistical analysis

We described the sample characteristics and the prevalence of CCU using frequencies and percentages. Determinants of CCU were assessed using bivariate and multivariable logistic regressions. All independent variables were included in the adjusted model. Stata 13.0 was used for analyses [26], which were adjusted for the sampling design and stratification based on survey weight provided in the datasets. Statistical significance was set at $p = 0.05$.

Results

Sample characteristics

Out of the 11,753 sampled women, 3,943 were in-a-union and currently using contraceptives. A total of 3,892 women were included in the final analysis after excluding 51 women (1.3%) who did not respond to the question of partner knowledge on contraceptive use. A majority of the final sample were 20–34 years (62.9%), lived in rural areas (65.3%) mainly Bungoma (11.6%) and Kitui (11.4%) counties, and had primary education (51.2%) and two or more children (82.3%). The mean age of first sexual encounter was 17.3 years (standard deviation: 3.0) (Table 1). Injectables (43.7%) and implants (35%) were the commonest method of contraceptives used.

Prevalence of covert contraceptive use

The overall weighted prevalence of CCU was 12.2% (465/3892, 95% CI: 10.4%–14.2%). The prevalence of CCU was high among older (35–49 years, 12.8%), uneducated (22.8%) and poorest (18.1%) women. It was also high among women living in rural areas (13.7%) and those who neither had children (20.8%) nor desired for more children (13.3%). Siaya (21.9%), Kericho (16.8%) and Kakamega (12.6%) counties had the highest prevalence (Table 1). Injectables (53.3%) and implants (34.6%) were the commonest methods of contraceptives used among covert contraceptive users (Figure 1).

Determinants of covert contraceptive use

Siaya county, rural residence, education, wealth, and age at sexual debut were associated with CCU in the bivariate analysis. In the multivariable logistic regression, counties, rural residence, education, wealth, parity, and age at sexual debut were associated with CCU (Table 1). Uneducated women and those with primary education had 3.8- and 1.9-folds increase in odds of CCU respectively, compared to those with tertiary education. Women from households with the poorest, poorer, and middle wealth quintiles had 2.7, 1.8- and 2.4-times increased odds of CCU compared to those from the richest quintile. Compared to women in Nairobi county, those in Kitui, Bungoma, Nyamira, West Pokot, Kilifi and Nandi counties had between 58% and 77% reduced odds of CCU. Women with two or more children and those with four or

more children had 51% and 38% reduced odds of CCU compared to those with no children. The odds of CCU reduced by a factor of 0.94 for every year increase in age at sexual debut (Table 1).

Table 1

Sample characteristics, and prevalence and determinants of covert contraceptive use in Kenya (N = 3892)

Characteristics	Sample	Prevalence of covert contraceptive use		Bivariate logistic regression analysis		Multivariable logistic regression analysis	
	n (%)	n	% [95% CI]	COR [95% CI]	p-value	AOR [95% CI]	p-value
County							
Nairobi	394 (10.1)	36	9.9 [7.5 – 14.1]	1		1	
Bungoma	452 (11.6)	56	12.8 [9.0 – 17.9]	1.27 [0.75 – 2.17]	0.376	0.44 [0.21 – 0.93]	0.031
Kericho	406 (10.4)	76	16.7 [9.6 – 27.7]	1.75 [0.84 – 3.64]	0.135	0.68 [0.27 – 1.70]	0.404
Kiambu	313 (8.0)	29	9.5 [5.6 – 15.4]	0.90 [0.46 – 1.74]	0.749	0.96 [0.47 – 1.94]	0.900
Kilifi	268 (6.9)	27	10.1 [6.3 – 15.8]	0.97 [0.52 – 1.82]	0.931	0.31 [0.13 – 0.69]	0.005
Kitui	441 (11.3)	48	11.2 [7.1 – 18.4]	1.14 [0.59 – 2.17]	0.698	0.41 [0.20 – 0.90]	0.025
Nandi	386 (9.9)	28	7.2 [4.3 – 11.1]	0.65 [0.35 – 1.21]	0.177	0.23 [0.10 – 0.53]	0.001
Nyamira	410 (10.5)	44	9.2 [6.9 – 15.0]	0.99 [0.57 – 1.74]	0.979	0.37 [0.17 – 0.81]	0.013
Siaya	288 (7.4)	62	22.9 [16.7 – 28.1]	2.43 [1.49 – 3.95]	< 0.001	0.72 [0.36 – 1.46]	0.363
Kakamega	415 (10.7)	45	13.1 [7.8 – 19.6]	1.25 [0.66 – 2.36]	0.496	0.42 [0.20 – 0.88]	0.021
West Pokot	119 (3.1)	14	9.7 [4.2 – 18.6]	0.87 [0.35 – 2.12]	0.752	0.30 [0.11 – 0.84]	0.022
Residence							
Urban	1348 (34.6)	110	8.5 [6.7 – 10.8]	1		1	
Rural	2544 (65.4)	355	13.7 [11.4 – 16.3]	1.70 [1.22 – 2.36]	0.002	1.60 [0.99 – 2.58]	0.055
Age, years							

COR: Crude odds ratio; AOR: Adjusted odds ratio; SD: Standard deviation: **Bold:** Significant at $p = 0.05$

Characteristics	Sample	Prevalence of covert contraceptive use		Bivariate logistic regression analysis		Multivariable logistic regression analysis	
	n (%)	n	% [95% CI]	COR [95% CI]	p-value	AOR [95% CI]	p-value
15 – 19	60 (1.5)	4	10.4 [3.0 – 30.2]	0.79 [0.22 – 2.91]	0.691	0.46 [0.10 – 2.18]	0.329
20 – 34	2446 (62.9)	282	11.9 [9.9 – 14.1]	0.92 [0.73 – 1.16]	0.528	0.92 [0.66 – 1.30]	0.647
35 – 49	1386 (35.6)	179	12.8 [10.7 – 15.2]	1		1	
Education							
No formal	90 (2.3)	20	22.8 [14.9 – 33.3]	5.46 [2.67 – 11.2]	< 0.001	3.79 [1.73 – 8.31]	0.001
Primary	1997 (51.3)	302	15.0 [12.3 – 18.3]	3.28 [1.97 – 5.46]	< 0.001	1.86 [1.06 – 3.29]	0.032
Secondary	1234 (31.7)	116	9.8 [7.8 – 12.2]	2.01 [1.31 – 3.09]	0.002	1.50 [0.93 – 2.40]	0.093
Tertiary	571 (14.7)	27	5.1 [3.4 – 7.7]	1		1	
Wealth index							
Poorest	813 (20.9)	105	18.1 [14.5 – 22.2]	3.18 [2.16 – 4.68]	< 0.001	2.67 [1.61 – 4.45]	< 0.001
Poorer	809 (20.8)	119	13.3 [10.7 – 16.4]	2.21 [1.47 – 3.34]	< 0.001	1.79 [1.05 – 3.04]	0.032
Middle	820 (21.1)	120	15.1 [11.7 – 19.3]	2.57 [1.71 – 3.86]	< 0.001	2.40 [1.52 – 3.78]	< 0.001
Richer	869 (22.3)	72	8.5 [6.5 – 11.2]	1.35 [0.89 – 2.05]	0.162	1.19 [0.75 – 1.89]	0.453
Richest	579 (14.9)	48	6.5 [4.7 – 8.8]	1		1	
Parity							
0–1	640 (17.6)	79	13.1 [10.3 – 16.4]	1		1	
2 – 3	1798 (46.2)	162	9.0 [7.1 – 11.3]	0.66 [0.47 – 0.91]	0.013	0.49 [0.33 – 0.72]	< 0.000

COR: Crude odds ratio; AOR: Adjusted odds ratio; SD: Standard deviation: **Bold:** Significant at $p = 0.05$

Characteristics	Sample	Prevalence of covert contraceptive use		Bivariate logistic regression analysis		Multivariable logistic regression analysis	
	n (%)	n	% [95% CI]	COR [95% CI]	p-value	AOR [95% CI]	p-value
4+	1409 (36.2)	224	15.6 [13.0 – 18.6]	1.23 [0.91 – 1.65]	0.167	0.62 [0.40 – 0.96]	0.033
Desire for more children							
No	1815 (50.0)	240	13.3 [11.0 – 16.1]	1		1	
Yes	1755 (48.3)	189	11.2 [9.2 – 13.6]	0.82 [0.64 – 1.05]	0.112	0.88 [0.63 – 1.22]	0.434
Infertile	62 (1.7)	8	11.3 [5.9 – 20.7]	0.83 [0.39 – 1.78]	0.632	0.71 [0.31 – 1.63]	0.420
Age at sexual debut (mean, SD)	17.3 (3.0)		16.6 (2.9)	0.90 [0.86 – 0.95]	< 0.001	0.94 [0.89 – 0.99]	0.029
COR: Crude odds ratio; AOR: Adjusted odds ratio; SD: Standard deviation: Bold: Significant at $p = 0.05$							

Discussion

The present study found a 12.2% prevalence of CCU among married women in Kenya. The prevalence was high among older, uneducated, poorest, and rural women, and among women who neither had children nor desired for more children. The commonest methods of contraceptives used covertly were injectables and implants. Education levels, wealth, county of residence, rural residence, parity and age at sexual debut were associated with CCU.

The prevalence of CCU in SSA ranges from 2.6–20.2% [15]. In our study, about one in ten women used contraceptives covertly, which signified an increase in the prevalence of CCU from 9% in 2008 [15]. Our prevalence was higher than in Ethiopia (8.7%) [27] but lower than in Uganda (22.1%) [23] and Ghana (53%) [28]. However, the study in Ghana included both married and unmarried women using contraceptives [28]. The practice of CCU could be due to societal perception of women using contraceptive as being promiscuous [6, 14, 28, 29], patriarchy [9, 29], fear of intimate partner violence [13, 30, 31], disagreement on the number of children [29], religious beliefs [14] and limited male involvement [6, 32]. CCU could reflect women empowerment and autonomy in decision making [31] but could also indicate male dominance in decision making and create a barrier to increasing contraceptive coverage [9].

Similar to previous studies in Ethiopia [27], Ghana [28], Kenya [1, 15] and Nigeria [5], injectables and implants were the commonest methods of contraceptives used overtly and covertly by married women. Injectables and implants are easy-to-use, effective, concealable [31], modern reversible contraceptives

lasting three months, and three or five years, respectively [3]. Injectables are also widely available and accessible in most health facilities and pharmacies hence promote CCU [31].

Women empowerment is associated with modern contraceptive use [11]. Autonomy and decision-making give women control over their body and reduce potential resistance against contraceptive use from their partners [15, 33, 34]. Improved autonomy and independence in decision making may increase partner involvement in FP but may also promote independent use of contraceptive and lack of partner involvement hence increasing the likelihood of CCU [15, 33–35].

High education and wealth improve women autonomy and decision making increasing the likelihood of use of modern contraceptive [22, 35, 36]. In our study, low levels of education and wealth were associated with increased odds of CCU, which confirms previous findings in SSA [15, 21]. The prevalence of CCU among the poorest women was thrice that of the richest women. We also found that an increase in age at sexual debut is associated with reduced odds of CCU indicating that women who delay their sexual debut have a high likelihood to use contraceptives with their partner's knowledge. This could be attributed to higher levels of education and income which increases their autonomy and decision making [35]. Girls' education delays early marriages, reduces the age at sexual debut and improves girls' and women's self-esteem [37], which is likely to improve communication with their partners.

Married women with children are more likely to be involved in decision making about the desired number of children and birth spacing [23, 35] hence the reduced odds of CCU among women with two or more children compared to those with none. This is consistent with a study in Ghana where women with no children were more likely to use contraceptives covertly compared to those with children [28]. We also found that women in rural areas were more likely to practice CCU compared to those in urban areas, though not statistically significant. Married urban women are more involved in decision making on children and FP due to their high level of knowledge on contraceptive and gender-equitable attitude [38]. On the contrary, we found that women from the rural counties of Kitui, Nyamira, West Pokot, Kilifi, Bungoma and Nandi were less likely to use contraceptives covertly compared to women in urban cosmopolitan Nairobi county. The reason for this is not clear but it may be due to perceived male dominance, cultural practices and reduced women autonomy.

Our study is one of the first to explore the practice of CCU in Kenya. We used nationally representative cross-sectional data from 11 out of the 47 counties of Kenya, which makes our finding generalisable to the country. However, based on the nature of the data we could not infer causation. Also, some key determinants of CCU such as duration of the marriage, years of schooling, decision making and exposure to media were not collected. The study also focuses on women-in-a-union and excludes women not-in-a-union who we could ascertain whether they had a partner(s) hence we may have underestimated the prevalence of CCU.

Conclusion

Our study shows that about one in 10 married women in Kenya use contraceptive covertly, with injectables and implants being the preferred methods. CCU was associated with education levels, wealth, county of residence, parity, and age at sexual debut. CCU could reflect both increased or decreased women autonomy and independence in decision making. While it is important to promote open contraceptive use among married couples, women should be supported to use contraceptives in whichever way they prefer. Importantly, FP programmes should promote couples communication and foster male involvement in FP to improve overall contraceptive use. Further research is needed to explore the reasons for CCU in Kenya.

List Of Abbreviations

aOR: Adjusted odds ratio; CCU: Covert contraceptive use; cOR: Crude odds ratio; FP: Family planning; PMA: Performance Monitoring for Accountability; mCPR: modern contraceptive prevalence rate; SD: Standard deviation; SSA: Sub-Saharan Africa

Declarations

Ethics approval and consent to participate

The study used secondary data from the Performance Monitoring for Accountability (PMA2020) surveys that were approved by the Kenyatta National Hospital-University of Nairobi Ethics Research Committee [39].

Consent for publication

Not applicable

Availability of data and materials

Data used in this study can be accessed from the Performance Monitoring for Accountability (PMA2020) website at <https://www.pma2020.org/request-access-to-datasets>

Competing interests

The authors declare that they have no competing interest.

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Author Contributions

CA conceptualized and acquired data for the study. CA, JOO and SMG designed the study, analysed the data, discussed, and agreed on the results and wrote the initial draft. All the authors critically reviewed,

read, and approved the manuscript.

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Figures

Figure 1
Method of contraceptive used by women with or without partners' knowledge

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