

Contraceptive Experiences of Women of Procreation Age Who Attended Two Health Centers in the City of Abidjan (Cote D'ivoire)

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Abstract

Introduction: Maternal mortality, which is estimated at 614 deaths per 100,000 births in Côte d'Ivoire, is associated with a low national contraceptive prevalence rate of 13.9%. In this study, we are interested in the contraceptive experiences of women who attend health centers to estimate their rate of contraceptive use and to assess the factors involved in the use of modern contraceptive methods among women of childbearing age who are exposed to the risk of pregnancy.

Method: A descriptive cross-sectional study was conducted among 423 women, who attended two health centers in Abidjan. A bivariate analysis identified factors associated with contraceptive use by these women. A descriptive analysis determined the means for the quantitative variables and the frequencies and percentages of qualitative variables. Interpretation of results was based on significance ($\alpha=5\%$, 95% CI).

Results: Contraceptive prevalence was 37%. There was a significant relationship between contraceptive use and the socio-demographic and reproductive characteristics of women ($p < 0.001$).

Conclusion: Women who were aged over 35 years, uneducated, primary school graduates, housewives, unemployed, in the informal sector, Muslims, nulliparous, and lacking information and decision-making power were less likely to use modern contraceptive methods. They are the target population for strategic interventions to improve contraceptive prevalence.

Introduction

Family planning (FP) can be defined as a group of methods that make it possible to (i) avoid unwanted pregnancies; (ii) choose the number of children desired and the times of their births; (iii) space births by respecting the appropriate time interval for the health of the mother and the child; (iv) schedule births at the best time regarding the mother's age [1].

Furthermore, it is recognized as an important indicator of the level of achievement of the demographic dividend and sustainable human development [1]. However, contraceptive prevalence in developing and poor countries remains low [2,10,14,20-22]. Contraceptive prevalence in Côte d'Ivoire has changed only slightly among women in union, from 9.8% (1998) to 13.9% (2012), with significant regional disparities despite all the strategies deployed by FP programs [2]. It is then estimated at 21% according to the 2018 PF report [3].

Maternal and child health is the priorities of the Ministry and the national health policy

Maternal and child health is one of the priorities of the Ministry and the national health policy, which is reflected in the National Health Development Plan 2016-2020. Several studies have examined the reasons for low contraceptive use in the general female population [4-6] and specific groups of women in society at different periods of their lives [7-9]. Other studies have targeted female health center attendants to

document negative outcomes related to modern contraceptive methods (MCM) [10], unwanted pregnancies [11] and induced abortions [12,13], satisfaction with contraceptive use [14], the quality of PF services provided [3,15] and women's contraceptive practices [10,16]. There are few studies that have investigated the factors associated with MCM use by women attending health centers [17] particularly in the Ivorian context, which is the reason for this study, which determined the obstacles to contraceptive use among patients attending two health centers in Abidjan.

Material And Method

1. Study framework

The economic capital city of Côte d'Ivoire, Abidjan, is inhabited by approximately five million people, i.e. 21% of the country's total population. It has three regions and thirteen health districts and is home to almost all the reference health establishments, including four University Hospital Centers, a tenth General Hospitals (GH), a plethora of health centers and private clinics. It concentrates the largest number of health activities at national level.

We have decided to conduct the present study in two randomly selected health centers, given our financial difficulties and our intention to keep the work concise. The study was conducted at the General Hospital (GH) of Yopougon Attié in the Yopougon-Est health district and the Adjamé 220-unit urban health center in the Adjamé-Plateau-Attécoubé health district. (*Figure 1*)

The borough of Yopougon has 1,071,543 inhabitants (2014 General Census of Population and Housing) on 153.06 km² or 7,004 inhab/ km². It is known for its warm and popular ambiance with its 1500 maquis, nightclubs, Rue Princess, Rue des Princes, etc. It has a middle-class residential suburb with a local workforce (8.8%) for its industrial area, residential areas of apartments and low-rise and flat roof houses (Sicogi, Sogefiha, etc.).

But it also has many precarious neighborhoods such as "Sicobois", "Yao Sehi", "my husband left me", etc.

The GH of Yopougon Attié, a center for the promotion of maternal and child health, was created to fight infant mortality in the 1980s. It became GH in 2013 to support the University Hospital Center of Yopougon. It has an obstetrical unit and carries out about 26 deliveries per day. It treats an average of 80-100 children per day. Each doctor sees at least 20 patients per day while the FP service saw 1,510 patients in 2018 of which 725 (48%) are put on MCM. (*Figure 1*)

The borough of Adjamé, located in central Abidjan, north of Plateau, has 372,978 inhabitants living on (2014 General Census of Population and Housing) 12.10 km², i.e. 21,016 inhabitants/km². As buses, mini-buses, and trains central stations, as well as the biggest day market location, Adjamé sees more than a million people passing through its center every day. As such, it is the place where migrants and local populations cross meet. Its residents are low-income people from "common yards" (54%) and

precarious dwellings (13%) who practice all kinds of trade. It has the largest concentration of migrants with an annual growth rate of 3.1%. (Figure 1)

The Marie-Thérèse Houphouët-Boigny Maternity Hospital of 220 dwellings in Adjamé was built in 1983 and became an Urban Health Center in 2006. In 2019, it received 7524 women of childbearing age in the FP service. Of these, 5098 women (67.7%) were counseled on contraceptive methods and 485 (6%) women were put on modern contraceptive methods. The center cared for a total of 19741 women in 2017, 26323 women in 2018 and 13164 women in 2019 (all consultations combined).

2. study type

We conducted a cross-sectional study using a quantitative approach that collected information on knowledge, attitudes, and practices regarding modern contraceptive methods as well as socio-demographic and reproductive data using a questionnaire.

3. Duration of the study

The study was conducted over ten months, from December 2018 to September 2019.

4. Study population

Women of reproductive age, sexually active and at risk of pregnancy, who attended the selected health centers were recruited by non-probability sampling until our sample size was obtained.

5. Sampling and Sample Size

The sample size for quantitative data collection was determined by using the Schwartz formula

$$n = t^2 \cdot \frac{p \cdot (1-p)}{e^2}$$

- n = The sample size

- t = The reduced deviation = 1.96 for a risk of error of 5%.

- P = Prevalence of the phenomenon in the population = 50%.

- q = 1 - P = 0,5

- e = The precision of the result required = 5%

n = 384.33

We have adjusted our sample size (n) to 423 women of childbearing age at risk of pregnancy (i.e., a 10% increase) to ensure sufficient representativity at the level of the sample subgroups.

6. Data Collection

The investigators, health workers (physician and nurse, public health specialists, second and third authors), were briefed on the study and trained on developed survey sheets. Data collection was conducted from January to May 2019. Some data were verified by the investigators. Data were collected from pre-tested anonymous individual questionnaires given to women through face-to-face interview at the health center on contraceptive methods and their determinants. The questionnaire was administered in French in most cases and in local languages in some cases if necessary.

7. Data collection process

Before the study was conducted, an awareness and information session were held in the selected health centers to obtain the support of health workers, women, and their partners (secondary target) to facilitate the survey. At each collection session, the interviewer explains the purpose of the survey to the respondent and reassures them that the data collected is confidential. The interviewer checks that the forms are filled out correctly before thanking the respondent for her cooperation at the end of each interview.

8. Data processing and analysis

- Dependent variable (DV): use of MCM
- Independent variables (VI): socio-demographic and reproductive characteristics
- Data analysis

The data collected were entered using Epi-Data software and then analyzed using SPSS 16 software. Descriptive analysis determined means for quantitative variables and then frequencies and percentages for qualitative variables. Interpretation of results was done at the significance level ($\alpha=5\%$, 95% CI).

9. Ethical considerations

Ethical approval was obtained from the National Ethics Committee for Life Sciences and Health of Côte d'Ivoire (N/Ref: IRB000111917). Other approvals were obtained from the Ministry of Health, particularly from the directors of the health centers. Ethical considerations included confidentiality and anonymity of responses. Participants were given autonomy, time, and information about the purpose, objectives, methods, and use of the results to decide to participate voluntarily, freely, and without pressure. Informed consent was obtained from all subjects and/or their legal guardian. Confidentiality was guaranteed by making the questionnaire anonymous.

Results

1. Contraceptive use rates and women's preferences for MCM

Among a total of 423 women of childbearing age and at risk of pregnancy recruited in the two selected health centers, only 37% were using a modern contraceptive method at the time of the study. Injectable contraceptive methods (36%) were the most used, followed by the pill (32%) and implants (26%) (*Figure 2*)

2. Contraceptive use and sociodemographic characteristics

MCM use was significant among women aged 15-25 years (39%) and 25-35 years (44%), with high school (44%) and higher education (30%), managers (18%), and students (29%), single (42%), Catholic (30%) Protestant (19%), and evangelical (31%) religious denominations. Thus, age, education, being single, and Christianity favored MCM use. Furthermore, this use increased with the age of the women (*Table 1*).

Table 1: Contraceptive use according to socio-demographic characteristics

Use of MCM			
Socio-demographic characteristics	Frequency / Percentage (%)		Chi-Pearson / P-value
	Yes	No	
<i>Age (years)</i>			
15-25	61 (39)	100 (38)	0.015
25-35	69 (44)	118 (42)	
35-50	26 (17)	49 (22)	
<i>Education level</i>			
No schooling	6 (4)	48 (18)	0.000
Primary	34 (22)	73 (27)	
Secondary	69 (44)	93 (35)	
University	47 (30)	53 (20)	
<i>Profession</i>			
Senior and middle-class employees	28 (18)	50 (17)	0.000
Informal sector	65 (42)	131 (49)	
Pupils and students	45 (29)	28 (11)	
Housewife and unemployed	18 (11)	58 (23)	
<i>Marital status</i>			
Single	66 (42)	69 (26)	0.025
Married	74 (47)	158 (59)	
Single person	16 (11)	40 (15)	
<i>Religion</i>			
Muslim	29 (17)	93 (35)	0.015
Catholic	45 (30)	67 (25)	
Protestant	29 (19)	30 (11)	
Evangelical	48 (31)	71 (27)	
Other	5 (3)	6 (2)	

Indeed, the Muslim women in the study were predominantly uneducated (52%), most Catholic (38%) and Evangelical (37%) women had tertiary education, while Protestant women had more of a secondary education. (Table 2)

Table 2: Distribution of women by religion and educational level

Woman's educational level					
Woman's religion	Frequency / Percentage (%)				Chi-Pearson / P-value
	None	Primary	Secondary	Higher	
Muslim	32 (52)	39 (39)	43 (27)	8 (8)	0,000
Catholic	11 (18)	19 (19)	44 (27)	38 (38)	0,000
Protestant	5 (8)	6 (6)	35 (22)	13 (13)	0,000
Evangelical	12 (20)	32 (32)	38 (23)	37 (37)	0,000
Other	1 (2)	4 (4)	2 (1)	4 (4)	0,000

3. Contraceptive use and perceptions

The woman's decision-making power through demanding the condom (76%) and taking the initiative for modern contraception (86%); the joint decision on contraception in the couple (96%); positive ideas about the condom namely its use in marriage (87%) and its effectiveness (96%); and the opposition of the entourage (18%), had a positive impact on the use of MCMs (*Table 3*). However, women who thought that the use of MCMs in the couple was the sole responsibility of the man and those who did not inquire about MCMs at the health center, did not use them. This use was less and indifferent respectively among women who discussed sex (57% vs. 63%) and FP (54% vs. 53%) with their partners. Spousal consent, good communication between partners and knowledge of the methods improved their use. (*Table 3*)

Table 3: Contraceptive use according to the perceptions of the women interviewed

Use of MCM			
Perceptions	Frequency / (%)		Chi-Pearson / P- value
	Yes	No	
<i>Are you sure you can demand a condom when you have sex?</i>			
Yes	119 (76)	116 (43)	0.000
No	37 (24)	151 (57)	
<i>Are you sure you can take the lead on modern contraception in your relationship?</i>			
Yes	124 (80)	108 (40)	0.000
No	32 (20)	159 (60)	
<i>Do you think that regular use of contraception is the sole responsibility of the husband or wife?</i>			
Yes	6 (4)	26 (10)	0.027
No	150 (96)	241 (90)	
<i>Do you discuss sexuality issues with your partner?</i>			
Yes	90 (57)	166 (63)	0.000
No	68 (43)	99 (37)	
<i>Do you discuss family planning with your partner?</i>			
Yes	84 (54)	140 (53)	0.000
No	74 (46)	125 (47)	
<i>Have you already gone to the health center to receive information about FP?</i>			
Yes	11 (7)	205 (77)	0.000
No	145 (93)	62 (23)	

<i>Are you under pressure from others not to use modern contraceptive method?</i>			0.000
Yes	28 (18)	4 (1)	
No	132 (85)	263 (99)	
<i>Do you think that married people should use condoms?</i>			0.000
Yes	136 (87)	164 (61)	
No	20 (13)	103 (39)	
<i>Do you believe that condoms are effective in protecting against pregnancy/STI/HIV/AIDS?</i>			0.000
Yes	150 (96)	204 (75)	
No	6 (4)	63 (25)	

4. Contraceptive use and reproductive factors

MCM use was high among women who wanted (49%) few children and those who had already had (64%) an average of 02 children. Contraceptive use was also high among women who had had unwanted pregnancies (15%) (Table 4).

Table 4: Contraceptive use by reproductive factors of interviewed women

Use of MCM			
Reproductive factors	Frequency / Percentage (%)		Chi-Pearson / P-value
	Yes	No	
<i>Mean number of children wished</i>			
2	77 (49)	86 (32)	0.000
5	68 (44)	163 (62)	
+ 8	11 (7)	18 (6)	
<i>Mean number of living children</i>			
0	47 (18)	53 (34)	0.000
2	172 (64)	84 (54)	
5	48 (18)	19 (12)	
<i>Unwanted pregnancies</i>			0.000
Yes	24 (15)	25 (9)	
No	132 (85)	242 (91)	

Discussion

This study, which investigated the contraceptive experiences of 423 women attending two health centers in Abidjan, was limited by financial constraints, non-response, and incomplete or even erroneous information. Despite these limitations, our study revealed factors influencing the use of MCMs that need to be discussed.

Contraceptive use

The MCM use rate was estimated at 37% in our study population. This rate is higher than the national contraceptive prevalence estimated at 21% according to the 2018 FP report. Compared to previous studies, our result remains largely below that of Keita, estimated at 64% among women at the Center of Health Reference of Commune VI of the District of Bamako in Mali [10]. The use rate of HIV-infected women followed as outpatients at Treichville University Hospital was estimated at 62.9% by N'Guessan et al. [16].

High contraceptive prevalence in hospitals in big cities are not exceptional and can be explained by the nature of the study population. These are people who are followed by health workers and received accurate and timely information that improves their knowledge. These women are supposed to be more receptive to health offers and do not reflect the health behavior of the general population. The weakness of our results could be explained by missed opportunities for information and communication in the

health centers. Indeed, only 51% of the clients had received information/counseling on FP. However, this result may be related to the value placed on fertility in our country. Thus, the use of MCMs remains a challenge in African countries despite years of awareness raising and strategic interventions supported by visible political leadership. The women in our study preferred injectable contraceptives (36%), the pill (32%) and implants (26%). This result could be explained by the ease and discretion of using these methods, which are often used without the knowledge of the partner [18]. Injectable progestins, implants and intrauterine devices were the methods of choice for women in the N'guessan study population in Abidjan [16] and Keita in Bamako [10]. The pill was the safe method for young French women under the age of 30 [19]. Although the male condom was in use in the health zones of Dibindi and Mumbunda in the Democratic Republic of Congo [4,20].

Factors explaining low contraceptive use

MCM use was high among young women aged 15-35, especially those aged 25-35 (44%). Young women are first concerned with completing their studies and then, once they are in a household, they are faced with the problems of spacing and limiting births. Our results are consistent with previous studies that have estimated the contraceptive use rate at 35.7% among women aged 25-29 in the DRC. [20] and to 49-53% among Nigerian women aged 25-39 [21].

Education improved knowledge and removes one of the major barriers to the use of MCMs, which is misinformation about their side effects and undesirable consequences on the reproductive health of users. Therefore, several studies, like ours, have shown that education improves the use of MCM [4,22-25]. This explains the high use of MCM among women in managerial positions in society and also among the Christian women in the study. Indeed, Catholic, Evangelical and Protestant women tended to have higher and secondary levels of education respectively, whereas Muslim women were mostly uneducated. However, this result found by Matungulu CM (2015) and Ugal BD (2013), could highlight a superficial practice of the Christian faith through the non-respect of the fundamental biblical principles on the one hand and on the other hand the quest for certain temporal and worldly privileges [20,21].

Our results showed that the information received, and the pressure experienced had no influence on the use of MCMs. In fact, very few women who used MCMs (7% vs. 93%) went to the health center to obtain information on FP, while the majority of those who were pressured by their entourage used MCMs (18% vs. 1%). These results are probably due to the level of education of these urban women, which is above the primary level in most cases. They have the capacity and the possibility to inform themselves through the mass media, the internet, social networks, books and magazines [26]. In addition, education increases a woman's decision-making power as well as her ability to communicate and negotiate with her partner.

Contraceptive use was high among single women (42%) and this result was found by Congo Z (2005) in Burkina Faso [27]. The single woman is very often schooling and on parental cover. She can also be a young servant with the concern of stabilizing herself on the matrimonial side. She cannot afford the luxury of having children who risk having different fathers or finding herself in a situation where the father refuses to assume the paternity of the children.

The woman's decision-making power influences contraceptive use. In fact, contraceptive use was important for women who could make the decision or take the initiative to use MCMs, in this case condoms, in their relationship. Low contraceptive use is greatly affected by the woman's lack of decision-making power. This result has similarities with previous studies [28–32]. Contraceptive use is better and even more effective if it is accompanied by good communication within the couple [28,33–36] and by positive ideas in favor of FP and MCM [6,9,22,37–39]). Thus, contraceptive practice without the knowledge of the partner is the result of poor communication between partners [26,31,34].

The wish to have very few children leads to an early need for birth control. An unwanted pregnancy reflects an unmet need for FP [13] and is a signal to start contraception and avoid similar cases. Every birth is the responsibility of the parents, who will normally be responsible for the new human being with all its rights. For this reason, parents have the duty to assume a responsible paternity and maternity to avoid that their offspring are in charge of others or have their fundamental rights violated. For these reasons, people define an ideal number of children for which they are able to assume responsibility and then use contraception with reason.

Conclusion

Several factors were responsible for the low use of modern contraceptive methods among women using health services. Women over 35 years of age, those with no schooling and primary education, housewives and the unemployed, those in the informal sector, Muslims, women without information and decision-making power, and nulliparous women negatively influenced the use of MCMs. In developing FP strategies, emphasis should be placed on FP information/counseling at health facilities, and on enrolling and retaining girls in school through the tertiary level. The results of this study require further statistical analysis and a qualitative study to document women's perceptions of the obstacles to low utilization of MCM.

Abbreviations

MCM: modern contraceptive methods

FP: family planning

GH general hospitals

HIV: human immunodeficiency virus

DRC: Democratic Republic of the Congo

Declarations

Ethics approval and consent to participate

The data used to write this article are part of a larger project that involved several health centers in Abidjan, the Ivorian capital, and Agboville, located 80.2 km from Abidjan. The project protocol was reviewed and approved by the National Ethics Committee for Life Sciences and Health of Côte d'Ivoire (N/Ref: IRB000111917, see Appendix 1).

Informed consent to participate was obtained from all subjects and/or their legal guardian, through the signing of a consent form (see Appendix 2). All methods described in the approved protocol were performed in accordance with the relevant guidelines and regulations, required by the ethics committee.

Consent for publication

Not applicable

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Competing interest

The authors declare that there are no conflicts of interest regarding the publication of this article.

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Authors' contributions

EEML developed the study protocol, KKB and MNM collected the data, KKB and EEML analyzed the data, EEML interpreted the data and wrote the manuscript. All authors read, corrected, and approved the final manuscript. So, all the authors mentioned in this article did contribute to the production of the work we are submitting, and the contents of the manuscript have never been published.

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Appendix

Appendix 1 is not available with this version.

Figures

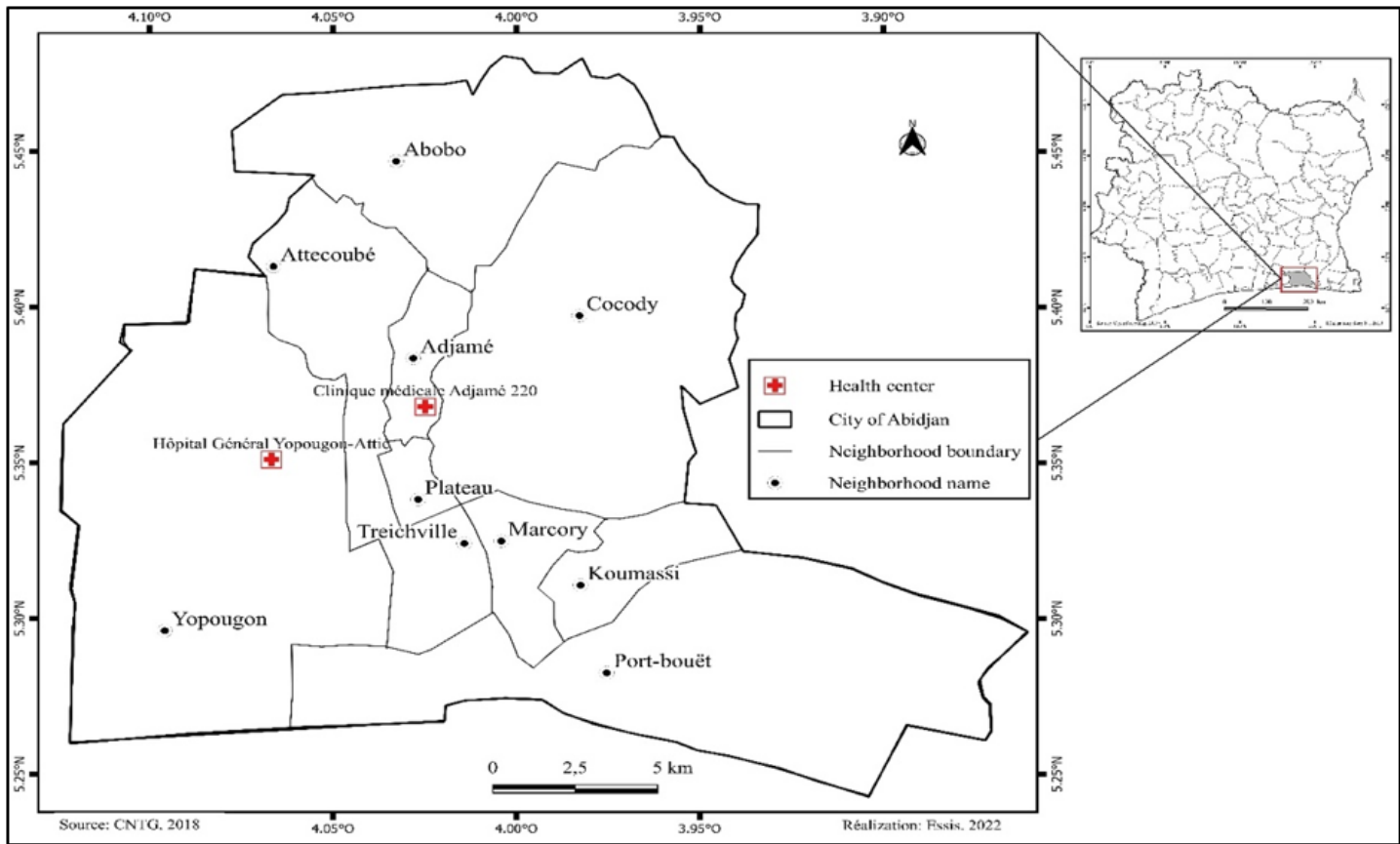


Figure 1

Map of the city of Abidjan locating the study's health centers

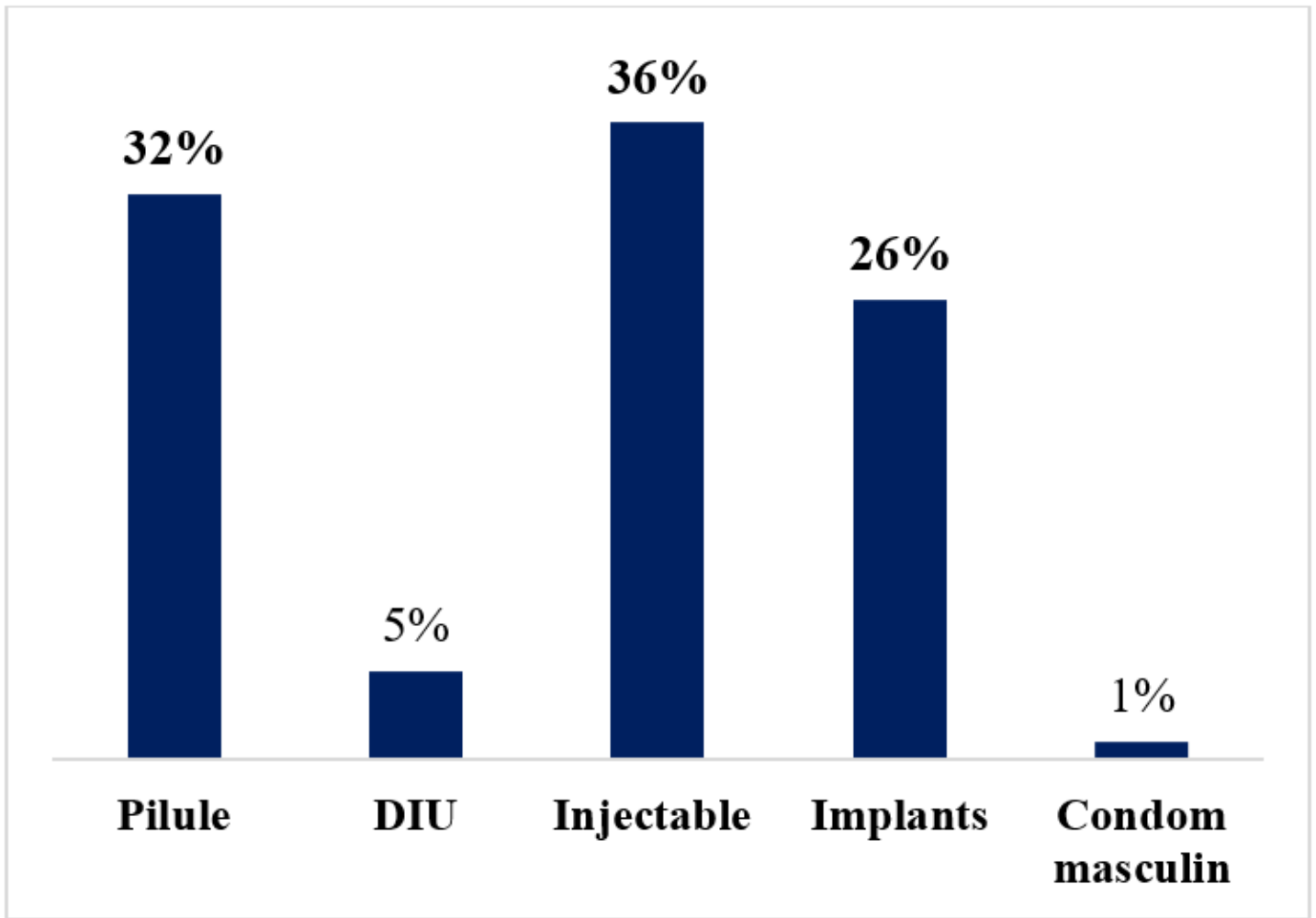


Figure 2

Type of modern contraceptive methods used by women in the study

Supplementary Files

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