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## **Role of Partner and Health Workers on Modern Contraceptive Use Among Married/In-union Women in Uzbekistan**

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# Role of Partner and Health Workers on Modern Contraceptive Use Among Married/In-union Women in Uzbekistan

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## Abstract

Many factors contribute to the declining total fertility rate, including family planning programs. The successful implementation of the family planning method might be influenced by how the decision to choose a contraceptive method was made. This study aimed to examine the correlation between family planning decision-makers and modern contraceptive use among married/in-union women of reproductive age in Uzbekistan. The 2021-2022 Multiple Indicator Cluster Survey was used by selecting only married/in-union women of reproductive age of 15 to 49 years, totaling 2,794 eligible samples. The modern family planning use variables were divided into not using, using Long-Acting Contraceptives (LAC), and Short-Acting Contraceptives (SAC). The univariate, bivariate (Chi-square and ANOVA), and multinomial logistic regression were performed. Family planning decision-makers from both women and husbands/partners, health workers, or others were significantly associated with modern contraceptive use for SAC and LAC, respectively. The type of family planning methods was significantly influenced by decision makers. Spouses, family members, and health workers need to implicate women to decide the most applicable contraceptive method.

**Keywords:** long-acting contraceptives, modern contraceptive methods, Multiple Indicator Cluster Survey, short-acting contraceptives, Uzbekistan

## Introduction

Uzbekistan is a Central Asian country that became independent from the Soviet Union in 1991. During the starting phase, Uzbekistan reformed the economic and health sector, focusing on women's health.<sup>1,2</sup> Woman and child health is still a concern in developing countries, including Uzbekistan.<sup>3</sup> Regarding family issues, contraception is necessary for economic development, human rights issues, and women's health.<sup>4</sup> Women of reproductive age face many potential risks due to biological processes, including pregnancy. Women have the autonomy to plan when and how many children they want, affecting their health and social well-being. The ability of women to control their fertility is representative of women's empowerment toward their roles, rights, and status.<sup>4</sup>

Despite the traditional method, modern use is more interesting because it includes barriers and hormonal methods, emergency contraception, and sterilization; thus, high promotion in terms of rationalization, science, and global focus.<sup>4</sup> Uzbekistan, where Muslims dominant-

ly reside, still focuses on seeking legal justice.<sup>3</sup> As an individual, women are treated unequally in every society, including in Uzbekistan.<sup>1</sup> In a patriarchal society, Uzbekistan turned to a new chapter to raise the issue of gender equality and the powerless status of women to obtain equality in male-dominated societies and families.<sup>3</sup> Sometimes, a religious issue is raised for using long-acting reversible contraceptives (LARC), especially sterilization.<sup>1</sup>

According to the Family Planning 2020 (FP2020) Uzbekistan Fact Sheet, the modern contraceptive prevalence, unmet need for modern contraception, and demand for modern contraception were 49.4%, 13%, and 83.2%, respectively.<sup>5</sup> In 2020, an estimated total of 4,414,000 women applied a modern contraception in Uzbekistan, and most of them used intrauterine devices (IUDs).<sup>5</sup> In Uzbekistan, women are facing cultural norms and gender stereotypes.<sup>6</sup> Women's rights and position in society are based on individual development, experiences, and activity, including women's power to con-

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trol fertility.<sup>7</sup> A high fertility rate occurred during Sovietism, making abortion a form of birth control instead of contraceptives.<sup>3</sup> However, after being independent from the Soviet Union, it declined from 6.9 in 1962 to 2.2 in 2012, but steadily increased to 3.2 in 2021.<sup>8</sup>

According to the FP2020 data, 67.9% of women in Asia were satisfied with modern contraceptive methods.<sup>9</sup> Globally, the prevalence of modern contraception methods was associated with women's age and education level.<sup>10</sup> However, related studies did not distinguish modern contraception in long-acting contraceptives (LAC) and short-acting contraceptives (SAC), which is important to examine because of time considerations. The shared decision-making approach has been a tool to define the use of modern contraceptives.<sup>11</sup> In Uzbekistan, the government encourages women to use modern contraceptives such as IUDs and sterilization.<sup>12</sup>

In Central Asia and India, limited studies have examined the correlation between decision-makers and family planning choices. Related studies in Tajikistan and India found that most women's authority to choose the type of contraceptive method could be higher if they exhibited control over their health care and financial support.<sup>13</sup> In the Uzbekistan context, this is the only study examining the correlation between family planning decision-makers and modern contraceptive use. Most related studies aimed at finding the determinants of family planning use, not specifically through the role of the decision maker.

This study aimed to examine the correlation between the family planning decision-maker and modern family planning use among married/in-union women of reproductive age in Uzbekistan. Modern contraceptive use in this study was divided into long- and short-term use according to time duration. This study will contribute to respecting women's authority, especially in a society where patriarchal systems are mostly employed. Women's rights issues were also brought out by this study to support the achievement of Sustainable Development Goal Five: to achieve gender equality and empower all women and girls.

## Method

The State Committee of the Republic of Uzbekistan on Statistics and the United Nations Children's Fund (UNICEF) Uzbekistan Country Office implemented the Multiple Indicator Cluster Survey (MICS) second cycle, providing secondary data for this cross-sectional study. The academics must register and submit a brief justification of their study plan to access the dataset. After two to four working days of processing, the authorization to access the data was emailed. The MICS was one of the main sources of data concerning mothers and children, and the data were gathered between November 2021 and January 2022.

Three-stage stratified sampling was the design strategy adopted. A total of 14 regions, both urban and rural, were selected to collect data. In Uzbekistan, the six geoeconomic regions include the Western (Republic of Karakalpakstan, Khorezm Region), Central (Jizzakh, Syrdarya and Tashkent Regions), Southern (Kashkadarya and Surkhandary Regions), Central-Eastern (Bukhara, Samarkand and Navoi Regions), Eastern (Fergana, Andijan and Namangan Regions) and Tashkent City. MICS sought to evaluate the state of women and children in the nation following international models and criteria to enable cross-national comparison. As many as 4,448 households were the focus of the MICS in Uzbekistan. In 2021, 10,879 homes in 556 clusters completed interviews with the household head and all other members.

For this study, the total sample of women aged 15 to 49 years was 5,068 eligible, and 4,772 were interviewed. The inclusion criteria to select a sample for this current study were women aged 15 to 49 years, currently living with husbands or partners, and completely interviewed. Women not completely interviewed or refused during the interview were excluded. The final sample for this study totaled 2,794 women after data cleaning and excluding missing data in each variable. The formerly married/in-union (single, divorced, separated, and widows) were excluded from the analysis because this study only focused on married women of reproductive age.

Four types of questionnaires were used to include households, women aged 14 to 49 years old, children under the age of 5, and children aged 5 to 17 years.<sup>14</sup> This study only focused on women's questionnaires. The women's questionnaire asked for women of reproductive age (15 to 49 years). In that questionnaire, women were asked about the fertility/record of birth, desire for last birth, maternal and newborn health, checking for post-natal, unmet needs, contraception, domestic violence, victimization, marriage, reproductive health, adult functioning, and HIV/AIDS status. The original questionnaire was in English and Russian but customized and translated into Uzbek and Karakalpak languages.

In September 2020, the preliminary study was conducted in one urban and rural mahalla in Karakalpakstan and Tashkent City, and one rural mahalla in the Tashkent Region. The translation and wording of the questionnaires were changed in response to the findings of the pre-tested survey. According to the dependent variable, the exact question is, "Would you say that using contraception is mainly your decision, mainly your husband's or partner's decision, did you both decide together, or is it the decision of a health care worker?". The options provided include mainly respondent (women), mainly husband/partner, the joint decision of respondent and husband/partner, and health workers/others.

The Health Media Lab's Ethical Review Board ap-

proved the MICS Uzbekistan survey procedure in March 2020.<sup>14</sup> The protocol comprised a protection policy covering potential dangers throughout the survey's life cycle and management techniques to reduce them. The data collection used Computer-Assisted Personal Interviewing (CAPI) and Census and Survey Processing System (CSPRO) Software, Version 6.3. Data were aggregated cluster by cluster to create the final datasets, processed using CSPRO, and analyzed using SPSS. All software used for MICS was under the UNICEF license. The MICS Uzbekistan constituted an open-access dataset with registration required. The dataset and all documentation can be downloaded on <https://mics.unicef.org/surveys>.<sup>15</sup>

The dependent variable was the use of modern contraceptive methods divided into three categories: not using, using LAC, and using SAC. The LAC was defined as women using IUDs, implants, and sterilization, while SAC was defined as using pills, injections, condoms, diaphragms, and jelly/foam. The main independent variable was the decision maker for family planning choice, which was divided into women only, husband/partner only, women and husband/partner, and health worker or others. The covariates included in the model comprised women's age, marital status (living with husband/living with a partner), educational level (primary/secondary, vocational and higher), husband/partner's age, wealth index (poorest, poorer, middle, richer and richest) and residence (urban/rural).

The univariate, bivariate, and multivariate analysis was tested using STATA Software, Version 17, licensed for the Institute for Population and Social Research, Mahidol University, Thailand. The univariate analysis aimed to find the general description of the respondents. The categorical variables were presented in percentage and frequency, and continuous variables were presented by minimum, maximum, mean, and standard deviation. The bivariate analysis aimed at testing the correlation between independent and dependent variables. It used the Chi-square test for categorical predictors and the analysis of variance (ANOVA) test for continuous predictors and used a 95% confidence interval (CI) to define the significance. Multivariate analysis aimed at testing the correlation between the main independent and dependent variables by adjusting with other independent variables. The multivariate analysis was performed using multinomial logistic regression as the dependent variable consists of a nominal scale.

### Results

Table 1 describes the general information on the respondents. Regarding modern contraceptive use, most respondents used LAC (63.71%), compared to those using SAC and not using both. According to the family plan-

ning decision maker for selecting the method, most respondents reported that both women and husbands or partners decided on the contraceptive method (55.15%). In terms of education level, most respondents graduated from vocational school (49.86%). Almost all were residing with husbands (99.50%), richer wealth index (21.47%), and resided in rural areas (52.79%). According to women's age, their minimum and maximum ages were 18 and 49 years, respectively, with an average of 34.18 years. In terms of husband's/partner's age, the minimum and maximum ages were 19 and 85 years, respectively, with an average of 37.68 years.

Table 2 describes the Chi-square and ANOVA analysis, which found a significant association in the family planning decision maker variable, women's age, marital status, residence, and husband's age. For the variable of decision makers, the highest proportion was found of women and husbands/partners as the decision makers for the SAC family planning method (60.91%). The mean women's age was 34.18, and the husband's/partner's age was 37.68 years old. Regarding education level and contraceptive use, the highest proportion graduated from vocational school and did not use any family planning methods (53.02%). Regarding marital status, the highest proportion was living with their husband/partner and using LAC (99.78%).

The wealth index variable found that the richest index and those using SAC constituted the highest proportion (28.64%). Regarding residence, most women resided in rural areas and used LAC (54.49%). The mean of women's and husbands'/partners' ages was 34.18 and 37.68, respectively. The standard deviation, p-value, and adjusted R-squared for the variable of women's age were

Table 1. Respondents' General Information (n = 2,794)

Variable	Category	n	%
Modern contraceptive use	Not using	794	28.42
	Using SAC	220	7.87
	Using LAC	1,780	63.71
Main decision maker	Women only	967	34.61
	Husband/partner only	130	4.65
	Both women and husband/partner	1,541	55.15
	Health workers or others	156	5.58
Women's education level	Primary and secondary	1,080	38.65
	Vocational	1,393	49.86
	Higher	321	11.49
Marital status	Living with husband	2,780	99.50
	Living with partner	14	0.50
Wealth index	Poorest	531	19.01
	Poorer	523	18.72
	Middle	552	19.76
	Richer	600	21.47
	Richest	588	21.05
Residence	Urban	1,319	47.21
	Rural	1,475	52.79

Notes: SAC = Short-acting Contraceptive, LAC = Long-acting Contraceptive

Table 2. Bivariate Analysis of the Correlation Between Family Planning Decision Maker and Modern Contraceptive Use (n = 2,794)

Variable	Category	Modern Contraceptive Use (n, %)			p-value
		Not Using	SAC	LAC	
Main decision maker	Women only	290 (36.52)	62 (28.18)	615 (34.55)	0.001**
	Husband/partner only	41 (5.16)	16 (7.27)	73 (4.10)	
	Both women and husband/partner	436 (54.91)	134 (60.91)	971 (54.55)	
	Health workers or others	27 (3.40)	8 (3.64)	121 (6.80)	
Women's education level	Primary and secondary	275 (34.63)	84 (18.18)	721 (40.51)	0.068
	Vocational	421 (53.02)	107 (48.64)	865 (48.60)	
	Higher	98 (12.34)	29 (13.18)	194 (10.90)	
Marital status	Living with husband	786 (98.99)	218 (99.09)	1,776 (99.78)	0.023*
	Living with partner	8 (1.01)	2 (0.91)	4 (0.22)	
Wealth index	Poorest	160 (20.15)	39 (17.73)	332 (18.65)	0.092
	Poorer	150 (18.89)	37 (16.82)	336 (18.88)	
	Middle	141 (17.76)	42 (19.09)	369 (20.73)	
	Richer	168 (21.16)	39 (17.73)	395 (22.08)	
	Richest	175 (22.04)	63 (28.64)	350 (19.66)	
Residence	Urban	393 (49.50)	116 (52.73)	810 (45.51)	0.040*
	Rural	401 (50.50)	104 (47.27)	970 (54.49)	

Notes: SAC = Short-Acting Contraceptives, LAC = Long-Acting Contraceptives, p-value<0.05, \*\*p-value<0.01, \*\*\*p-value<0.001

Table 3. Result of Multinomial Logistic Regression of Modern Contraceptive Use (n = 2,794)

Variable	Category	Short-Acting Contraceptive			Long-Acting Contraceptive		
		RRR	Lower	Upper	RRR	Lower	Upper
Main decision maker	Women only	Ref			Ref		
	Husband/partner only	1.86	0.97	3.57	0.87	0.57	1.33
	Both women and husband/partner	1.58**	1.12	2.23	1.15	0.94	1.37
	Health workers or others	1.51	0.65	3.51	2.16**	1.37	3.39
Women's age		1.07**	1.02	1.12	1.12***	1.09	1.15
Women's education level	Primary and secondary	Ref			Ref		
	Vocational	1.13	0.79	1.62	1.18	0.96	1.45
	Higher	1.03	0.61	1.74	0.97	0.71	1.33
Marital status	Living with husband	Ref			Ref		
	Living with partner	0.81	0.16	3.99	0.19**	0.06	0.67
Wealth index	Poorest	Ref			Ref		
	Poorer	1.01	0.61	1.68	1.07	0.81	1.42
	Middle	1.27	0.77	2.09	1.31	0.98	1.73
	Richer	1.07	0.65	1.79	1.31	0.99	1.73
	Richest	1.53	0.91	2.58	1.12	0.82	1.52
Residence	Urban	Ref			Ref		
	Rural	1.01	0.71	1.41	1.14	0.94	1.38
Husband's age		0.99	0.95	1.04	0.97**	0.94	0.99

Notes: RRR = Relative Risk Ratio, p-value<0.05, \*\*p-value<0.01, \*\*\*p-value<0.001

7.71, <0.001, and 0.0765, respectively. The standard deviation, p-value, and adjusted R-squared for the variable of husband/partner's age were 8.01, <0.001, and 0.0603, respectively.

Table 3 displays the results of multinomial logistic regression. The factors found significantly related to the use of SAC were both side decision making and women's age. The relative risk ratio comparing women as the only decision maker for the family planning method and both women and husband/partner as the decision maker was 1.58 for not using versus using SAC. In other words, the

expected risk of using SAC was higher for both women and husband/partner as the decision makers for family planning methods. In terms of women's age, the relative risk ratio for a one-year increase in women's age was 1.07 for using SAC compared with those not using the family planning method. Therefore, older woman's age exhibited a higher tendency to use SAC by 1.07 times.

The factors associated with using LAC were health workers or others as decision makers for choosing the family planning method, women's age, living with a partner, and husband's/partner's age. The relative risk ratio

comparing women as the only decision makers for family planning and health workers or others as decision makers was 2.16 for not using versus using LAC. The relative risk ratio comparing women living with husbands and living with a partner was 0.19 for not using versus using LAC. In other words, the expected risk of using LAC was higher for health workers or others as decision makers and lower for women living with partners than women living with husbands.

In terms of women and husbands' ages, for a one-year increase, women's age was 1.12 for using LAC versus not using the family planning method. However, the one-year increase in the husband's age was 0.97 for using LAC versus not using. In other words, the relative risk ratio of using LAC was higher for health workers or other decision makers and women older by age. However, LAC was lower for women living with partners and husbands older by age. However, in the multivariate analysis, the remaining variables were not associated with using modern contraceptive methods.

The family planning decision maker was the main predictor in this study, and the probability of choosing a modern family planning method is displayed in Figure 1. It captures the margins plot for three possible outcomes based on the decision maker. According to the Figure 1, it can be concluded that the husband/partner only is the most influential variable for not using any contraceptive method and for using SAC methods such as pills, injections, foam/jelly, and diaphragm. However, using the LAC was mostly influenced by health workers as decision makers.

### Discussion

The family planning method is directly implemented to control birth.<sup>3</sup> According to the World Bank data, the total fertility rate in Uzbekistan declined from 6.9 in 1962 to 2.2 in 2012, but steadily increased to 3.2 in 2021.<sup>8</sup> The family planning method used by women of reproductive age in Uzbekistan is quite high, especially women using IUDs (higher than 80%).<sup>5</sup> The government's role is to establish a policy to control birth, such as motivating women who have given birth to two or more children to sterilization and persuading young women to use IUDs.<sup>16</sup>

This study revealed that the percentage of LARC was higher than SAC because the timing was considered to control the birth. Women using IUDs, implants, or sterilization might apply those methods for the long term, compared to SAC, including pills, injections, or condoms that could only be used in the short term.<sup>9</sup> The high percentage of sterilization and IUDs is also decidedly attributed to medical doctors and health professionals who educate women and families about the importance of family planning methods and improve healthcare provision to encourage women to space out births and limit children to only two.<sup>10</sup> According to the United Nations Population Fund classification, Uzbekistan needs to control its population growth because it placed this country in the three poorest in the former Soviet Union according to per capita income.<sup>2</sup>

This study revealed that the factors associated with modern contraception were decision makers and women's age. However, for the LAC, the additional factors

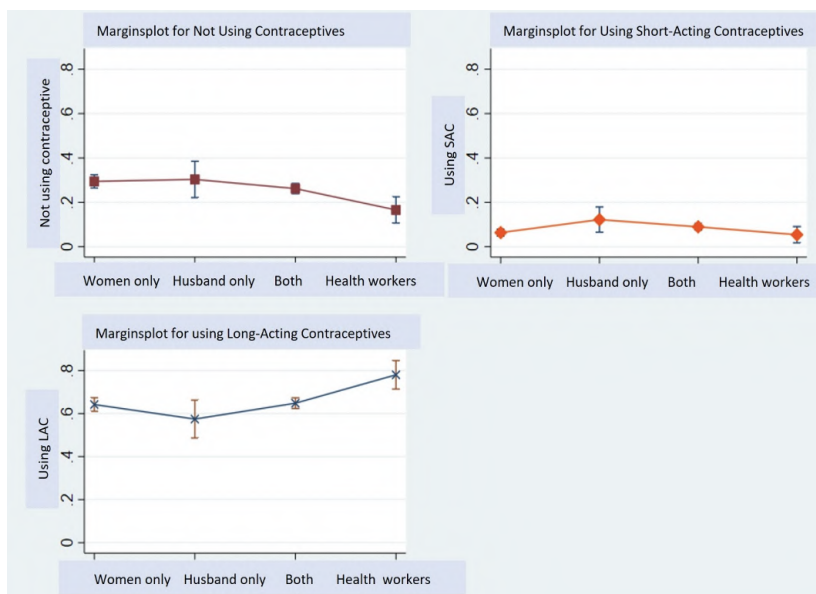


Figure 1. Adjusted Predictive of Mainly Family Planning Decision Maker with 90% Confidence Intervals

included living with a partner/in a union and the husband's/partner's age. Decision-making in the family presented the autonomy of both sides, husband and wife. The patriarchy is one possible reason that could be linked between reproductive and informal work or other aspects, including how the decision is made.<sup>17</sup> Uzbekistan is a country that prefers having sons rather than daughters.<sup>3</sup> Hence, the number of children in Uzbekistan families before the success of the family planning program was five to ten children.<sup>16</sup>

One study in Uzbekistan summarized the effect of patriarchy on women, such as women being afraid to gain awareness of their legal rights and that violations will not end due to divorce.<sup>18</sup> Uzbek women received unequal awareness of formal rights and socioeconomic transformation because of the high number of the unemployed, low level of education, and poverty.<sup>19</sup> In Uzbekistan, women are not represented or invisible because of cultural norms and gender stereotypes.<sup>6</sup> The position of women in society is based on individual development through experience and activity.<sup>7</sup>

The record of birth control in Uzbekistan started with the standard Soviet method, abortion, and the culture seems to make women afraid not to give birth every year because the husband and family members might cease to care for them, and the wife will lose face.<sup>3</sup> IUD is the method women use in Uzbekistan because of the national reproductive health program, and women possess little knowledge and experience with methods other than IUD.<sup>5</sup> In this study, both decision makers significantly chose SAC. However, for LAC, the health worker's decision dominated. The government seriously motivated health workers to encourage women to use IUDs immediately after giving birth and use sterilization after having two children.<sup>1</sup>

Other variables influencing modern family planning methods were women's age, living with a partner, and husband's/partner's age. Women at increasing age tend to use modern family planning to prevent pregnancy, which might be at high risk.<sup>20,21</sup> The risk is to both the women's and the newborn's health. Women living with a partner or in a union were less likely to use LAC modern contraceptive methods because health insurance may not cover those methods.<sup>20</sup> However, the SAC contraceptive methods are free, so that women are more likely to use SAC or traditional contraceptives.<sup>20</sup> Increasing husband's/partner's age makes it less likely to use modern family planning methods.<sup>22,23</sup> It might be due to the children's sex preference that drives the husband to have a son even though the wife has already given birth to daughters many times.

The power of women's decision-making was influenced by age, literacy, the number of children, and socioeconomic status.<sup>24</sup> Joint decision-making between wo-

men and husband/partner was found to have a strong power compared with women only.<sup>25</sup> Nigerian women also participated in household decision-making and could decide on their fertility.<sup>26</sup> One study in South Africa found a correlation between culture and men making decisions regarding child-bearing.<sup>27</sup> Female as the decision maker was associated with a higher tendency to use contraceptives and a limited number of children.<sup>28</sup>

The decision-maker of contraceptive use is an iterative, relational, reflective journey and dynamic process that can change over time.<sup>29</sup> Contraceptive attributes affected family planning decision-making, and none drove most women's decisions.<sup>30</sup> Decision-making between wife and husband was less likely to have an unmet need for contraception.<sup>31</sup> Women's empowerment was also significantly related to the use of contraception.<sup>32</sup> Many factors may encourage women to use contraceptives, such as level of education, the number of children, and acceptance of family members.<sup>33</sup> Women's autonomy was a strong predictor of modern contraceptive use based on studies in Indonesia.<sup>34,35</sup> However, the male partner's decision sometimes constitutes a barrier instead of influencing family members and friends.<sup>36</sup>

In line with related studies, in Sub-Saharan Africa, the contribution of males in the family planning program was very low in decisions and implementation.<sup>37</sup> Women's choice of contraceptive methods is influenced by the effectiveness in preventing pregnancy, HIV/Sexually Transmitted Diseases (STDs), and hormone-free status.<sup>38</sup> Even though health workers played the role of educating women regarding the pros and cons of each contraceptive method, the participation of peers was dominant.<sup>39</sup> Many tools could be developed as the media of contraceptive counseling, including tablet-based, which found that most women felt choosing the method they wanted was easier.<sup>11</sup> Shared decision-making represents the great engagement between women and health workers, and the outcomes can be evaluated.<sup>11</sup> In conclusion, SAC use was significantly influenced by decisions from both women and husbands/partners, but health workers significantly influenced SAC use.

## Conclusion

The roles of partners and health workers are important in modern contraceptive use. In detail, for LAC methods, the role of the health worker was the most influential. Moreover, the role of both decisions (women and partners) for SAC methods was the most influential. The collaboration between partners and health workers can effectively increase modern contraceptive use.

## Abbreviations

LARC: Long-acting Reversible Contraceptives; FP2020: Family Planning 2020; IUD: Intrauterine Device; LAC: Long-acting



Contraceptives; SAC: Short-acting Contraceptives; UNICEF: Nations Children's Fund; MICS: Multiple Indicator Cluster Survey; CAPI: Computer-Assisted Personal Interviewing; ANOVA: Analysis of Variance; CI: Confidence Interval; STDs: Sexually Transmitted Diseases.

### Ethics Approval and Consent to Participate

Verbal consent was obtained for each respondent participating. All respondents were informed of the voluntary nature of participation and the confidentiality and anonymity of information. Additionally, respondents were informed of their right to refuse to answer all or particular questions, as well as to stop the interview at any time.

### Competing Interest

The authors declare that there are no significant competing financial, professional, or personal interests that might have affected the performance or presentation of the work described in this manuscript.

### Availability of Data and Materials

The raw data is available on the website <https://mics.unicef.org/surveys>.<sup>18</sup> and is free to download after registration and receiving approval.

### Authors' Contribution

S, HA, and M obtained and analyzed the data and developed the topics. LA, MHNS, MH, and IR contributed to the study's conceptualization and design. MR and MUH were focused on the background and discussion sections. All authors critically reviewed the manuscript and took part in the discussion part. All authors read and approved the final manuscript.

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