



## RESEARCH ARTICLE



## IUD-Related knowledge and practice among women in Afghanistan: A cross-sectional survey study

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### ARTICLE INFO ABSTRACT

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**Background:** Intrauterine Devices (IUDs) are T-shaped devices that can be inserted into the uterus to provide contraception. IUDs are a form of long-term contraception that are effective birth control methods with few adverse effects. The purpose of this study is to reveal the current baseline for the knowledge and practice of Afghan women toward intrauterine devices and identify the related sociodemographic factors.

**Methods:** This cross-sectional survey was conducted from October 2022 to December 2022 among married women aged at least 18 years old living in Herat province of Afghanistan. A total of 1000 females in Herat were asked, and 411 agreed to participate in this study (response rate=41.1%).

**Results:** Only one-fourth of the participants responded that health care workers are their primary source of information on health issues (25.3%). More than nine-tenths of the participants had poor knowledge level of IUD (91.5%) while only one-twentieth of participants were using IUD (5.8%). Number of children, education level, occupation, and economic status were found to be significantly associated with participants' knowledge on IUD.

**Conclusion:** Government and health organizations should provide trainings focused on increase of knowledge on IUD and its related issues. The programs should also persuade women to use IUD and its safety. Training should be targeted not only to women, but to family practice physicians, nurse and midwifery practitioners and other providers who offer family planning counseling and services.

### Introduction

Intrauterine Devices (IUDs) are T-shaped devices that can be inserted into the uterus to provide contraception. IUDs are a form of long-term contraception (1) that are effective birth control methods with few adverse effects (2). There are 2 different types of IUDs, copper-containing IUDs, and

levonorgestrel-containing (LNG) IUDs (3). LNG IUD methods release a small amount of levonorgestrel hormone into the uterus and thus are also called hormonal IUDs (4). The most effective emergency contraceptive is the copper IUD, which also offers continuous contraception (5).

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Copper IUDs can be effective for up to 12 years, and during the first year of use, they result in fewer than one pregnancy per hundred women. Over a period of ten years, there are approximately two pregnancies for every one hundred women (6).

Women of any age, including adolescents, can utilize intrauterine devices. IUDs do not raise the risk of sexually transmitted infections (STIs), miscarriage when a woman falls pregnant after having her IUD removed, or ectopic pregnancy. IUDs also do not cause infertility, produce birth deformities or cancer, and do not cause pain during intercourse for either the man or the woman (6).

Women like IUDs for a variety of reasons, including the fact that they are long-lasting and private, and that once inserted, the user is not obliged to do anything further or incur any additional costs (6).

Women may not want to utilize IUDs for various reasons, including pain during the insertion and removal processes, not wanting something in their uterus, potential side effects, and being concerned about the efficacy of IUDs (7).

In rare circumstances, IUDs might cause issues such as uterine wall puncture caused by the IUD or insertion procedures. This problem, however, normally recovers on its own. Furthermore, if a woman falls pregnant while using an IUD, the IUD can cause miscarriage, premature birth, or infection (6).

According to the reports in the Afghanistan Demographic and Health Survey 2015, 62% of married women and 33% of married men between the ages of 15 and 49 have heard of IUDs. Yet, only 1% of married women between the ages of 15 and 49 use IUDs overall. The percentage of married Afghan women aged 15 to 49 who use an IUD varies according to their demographic background. For example, the prevalence of IUD use varies from province to province in Afghanistan. Additionally, 2.7% of urban inhabitants versus 1.0% of rural residents use IUDs, 6.9% of those with post-secondary education versus 1.1% of those with no education, and 3.2% of those with the highest income versus 0.4% of those with the lowest income

(8). Women aged 15 to 49 who began using a contraceptive technique within five years before the survey have the following dropout rates within one year: none because of method failure, 1.6% because they wanted to become pregnant, 0.2% because they wanted to use a more effective method (pills and condom), and 6.9% due to the side effects or health concerns (8).

In a study in Karachi, Pakistan, 64.7% of the participants were aware of IUDs, whereas only 12% reported using IUDs (9). In another study in a suburban clinic in the United States, only 2.6% of the participants reported using IUDs for contraception. In relation to their knowledge of IUDs, 66.7% (84.9% female, and 15.1% male) of participants reported having heard of them while both male and female participants lacked knowledge about the use of IUDs (10).

A study in India found that the major issues regarding IUD use were inaccessibility and unavailability, privacy (women preferred birth control pills over IUDs because they felt IUDs could compromise their privacy), misconceptions about IUDs (such as IUDs causing cancer, infertility, or going to the abdominal cavity), fear of side effects (such as bleeding, cramps), lack of knowledge due to their illiteracy or limited promotion of the procedure by health-care practitioners (11).

According to a study conducted in Brazil, women who do not have children, are younger, single, health-insured, and have higher levels of education are more likely to utilize an intrauterine device (IUD) (12). Moreover, according to a study in Ethiopia, women's adoption of the IUDs was influenced by having a supportive husband or partner, being educated, recognizing that IUDs do not lead to infections, and hearing about them from friends or the media (13).

Women can actively make decisions about their reproductive health and family planning when they have access to a range of methods for contraception, whether they prefer to use a device, prescription, procedure, or behavior (2).

Few studies have been conducted on Afghan women's knowledge and practice toward IUD use. The

purpose of this study is to reveal the current baseline for the knowledge and practice of Afghan women toward intrauterine devices and identify the related sociodemographic factors. This will assist healthcare providers in improving contraceptive education and awareness and assisting women in selecting the optimal methods in their circumstances.

## Materials and Methods

This cross-sectional study was conducted among married women aged at least 18 years old living in Herat province of Afghanistan between October 2022 to December 2022.

The convenience sampling method was used to collect data for this study. A total of 1000 women from all the urban and rural areas of Herat province (Afghanistan) were asked, and about 411 of them agreed to participate in this study (response rate=41.1%). Ethical approval for the conduct of this study was obtained from the Afghanistan Center for Epidemiological Studies [ACES] Ethical Committee (reference number #90.001; September, 2022). In the initial interaction with the participants, they were provided with a description of the study. Written or verbal informed consent were obtained from all participants in the current study. Participants were informed that they had the option to withdraw from the study at any given time during the interview.

The questionnaire was translated to the Dari language. The prospective respondents were to be limited to speakers of the Dari language. A pilot study was conducted among thirty female participants. After the necessary changes to adapt the said questionnaire in the local context, the final survey instrument consisted of twenty-four items divided into three information groups: the socio-demographic, knowledge and practice towards IUDs.

Data was collected by Afghanistan Center for Epidemiological Studies data collectors (ACES) in Herat province of Afghanistan. These data enumerators were trained on how to select participants, demonstrate the study goal, how to ask the questions, and finally obtain an informed consent letter from the participant.

The characteristics distribution of the sample was observed primarily. Next, the response distribution to IUD knowledge and the practice of IUD were also viewed. The chi-square [ $\chi^2$ ] test was performed between the aforementioned indices of knowledge and practice and the sociodemographic variables. The alpha level of statistical significance was set at 95%.

## Results

A total of 411 female participated in this study. Less than half of the participants were young women and were 18-31 years old (47.9%). Almost two-third of the participants had 1-5 children (63.5%). Three quarter of the participants were illiterate (71.8%). One-fifth of the participants had a middle income economic status (20.9%). **[Table 1]**

Table 1. Characteristics distribution of the study sample (Afghanistan-2022)

Characteristic	Categories	N (%)
Age group	18–31-years	197 (47.9)
	32–60-years	214 (52.1)
Residency	Urban	223 (54.3)
	Rural	188 (45.7)
Number of children	None	19 (4.6)
	1-5 child	261 (63.5)
	More than 5	131 (31.9)
Education	Illiterate	295 (71.8)
	Primary school	19 (4.6)
	Secondary school	15 (3.6)
	High school	71 (17.3)
	University	11 (2.7)
Occupation	Employed/looking	20 (4.9)
	Housewife	391 (95.1)
Economic status	High income	5 (1.2)
	Middle income	86 (20.9)
	Low income	320 (77.9)
<b>Total</b>		<b>411 (100.0)</b>

Only one-fourth of the participants responded that health care workers are their primary source of information on health issues (25.3%). More than nine-tenths of the participants had poor knowledge level of IUD (91.5%) while only one-twentieth of participants were using IUD (5.8%). **[Table 2]**

Table 2. Source of information, knowledge, and practice on intrauterine devices (IUD) among participants (Afghanistan-2022)

Variable	Categories	N (%)
Primary source of information on health issues	HCWs	104 (25.3)
	Friends	258 (62.8)
	Other	49 (11.9)
Knowledge of IUD	Good	35 (8.5)
	Poor	376 (91.5)
Using IUD	Yes	24 (5.8)
	No	387 (94.2)
<b>Total</b>		<b>411 (100.0)</b>

\*HCWs: Healthcare workers

Very few participants who had more than five children had good knowledge of IUD (3.1%). Nine-tenths of the participants with university-level education had good knowledge of IUD (90.9%). Women who had a job or looking for a job had better knowledge scores than housewives and 30.0% of them had good knowledge level of IUD. Number of children, education level, occupation, and economic status were found to be significantly associated with participants' knowledge on IUD. [Table 3]

Table 3. Association of knowledge of Intrauterine devices (IUD) with participants socio-demographic characteristics (Afghanistan-2022)

Characteristic	Categories	Knowledge		p-value
		Good N (%)	Poor N (%)	
Age group	18–31-years	17 (8.6)	180 (91.4)	.937
	32–60-years	18 (8.4)	196 (91.6)	
Residency	Urban	22 (9.9)	201 (90.1)	.286
	Rural	13 (6.9)	175 (93.1)	
Number of children	None	10 (52.6)	9 (47.4)	<.001*
	1-5 child	21 (8.0)	240 (92.0)	
	More than 5	4 (3.1)	127 (96.9)	
Education	Illiterate	7 (2.4)	288 (97.6)	<.001*
	Primary school	1 (5.3)	18 (94.7)	
	Secondary school	2 (13.3)	13 (86.7)	
	High school	15 (21.1)	56 (78.9)	
	University	10 (90.9)	1 (9.1)	
Occupation	Employed/looking for job	6 (30.0)	14 (70.0)	<.001*
	Housewife	29 (7.4)	362 (92.6)	
Economic status	High income	0 (0.0)	5 (100.0)	<.001*
	Middle income	17 (19.8)	69 (80.2)	
	Low income	18 (5.6)	302 (94.4)	
<b>Total</b>		<b>35 (8.5)</b>	<b>376 (91.5)</b>	

\* Significant

Almost one tenth of older age participants responded that they use IUD (8.4%). A few of the participants living in urban areas were using IUD (3.6%). Almost one-tenth of the participants with

university-level education were using IUD (9.1%). Participant age, and residency were found to be significantly associated with participants' knowledge on IUD. [Table 4]

Table 4. Association of practice of intrauterine devices (IUD) with participant socio-demographic characteristics (Afghanistan-2022)

Characteristic	Categories	Practice		p-value
		Using N (%)	Not using N (%)	
Age group	18–31-years	6 (3.0)	191 (97.0)	<b>.020</b>
	32–60-years	18 (8.4)	196 (91.6)	
Residency	Urban	8 (3.6)	215 (96.4)	<b>.034</b>
	Rural	16 (8.5)	172 (91.5)	
Number of children	None	2 (10.5)	17 (89.5)	.168
	1-5 child	11 (4.2)	250 (95.8)	
	More than 5	11 (8.4)	120 (91.6)	

Table 4 (continued)

Characteristic	Categories	Practice		p-value
		Using N (%)	Not using N (%)	
Education	Illiterate	20 (6.8)	275 (93.2)	.547
	Primary school	0 (0.0)	19 (100.0)	
	Secondary school	1 (6.7)	14 (93.3)	
	High school	2 (2.8)	69 (97.2)	
	University	1 (9.1)	10 (90.9)	
Occupation	Employed/looking for job	2 (10.0)	18 (90.0)	.416
	Housewife	22 (5.6)	369 (94.4)	
Economic status	High income	0 (0.0)	5 (100.0)	.854
	Middle income	5 (5.8)	81 (94.2)	
	Low income	19 (5.9)	301 (94.1)	
<b>Total</b>		<b>24 (5.8)</b>	<b>387 (94.2)</b>	

## Discussion

The aim of this study was to assess the knowledge and practice of Afghan women towards intrauterine devices and to explore the associated sociodemographic factors. We recruited 411 married female participants, more than half of whom were aged 32-60 years. Only 5% of the participants were childless and nearly 32% had more than five children. The literacy rate among the participants was about 28%, which reflected the national average for adult females in Afghanistan (14).

The utilization of intrauterine devices (IUDs) as a form of contraception is a reliable and cost-effective option that does not require frequent visits to healthcare facilities. Proper knowledge and positive practice towards IUDs among women can significantly contribute to promoting reproductive health and reducing the risk of unplanned pregnancies. However, our study findings reveal that only a small percentage of married women age 18 and older possess adequate knowledge about IUDs, with a mere 5.8% of respondents currently using them.

Our study revealed that most respondents (62%) relied on their friends as the main source of health information, while only a quarter relied on healthcare workers. This suggests a gap in the availability and accessibility of complete and accurate contraceptive information, as informal sources may lead to misconceptions or false beliefs. For instance, a study among women in US found that social communication often spread misinformation and

negative information on IUDs, which could deter women from ever considering this contraceptive option (15).

Our study did not find a clear link between education level and IUD use, even though higher education was significantly associated with better knowledge about IUDs. This implies that other factors may influence women's choice of IUDs. For instance, higher use of IUDs in rural areas in our study could be influenced by the limited accessibility of other temporary contraceptives that require frequent use. Also, a greater number of children, employment and middle economic status were found to be associated with good knowledge of IUDs, but not with their use.

Similarly, the stigma surrounding sexual and reproductive health issues may prevent women from seeking accurate information about their contraceptive options, leading to misconceptions or mistrust of modern contraceptive methods. Moreover, as a conservative and patriarchal society, Afghanistan has deeply ingrained cultural norms that may affect women's decision-making regarding their reproductive health. For example, some women may face resistance from their male partners or family members when considering the use of contraceptives, including IUDs. Also, studies have found cultural and religious differences in contraceptive use with prevalence of contraceptive use found to be lower in women with a more conservative background (16).

Similarly, we found that older women were more likely to use IUDs. This may reflect that contrary

to expert recommendations, healthcare workers hesitate to insert IUDs in younger and nulliparous women. Previous studies have shown that women tend to have a positive attitude towards IUDs after learning about them. In a Singaporean study, 90% of women said that healthcare professionals' advice was important for their contraceptive decision. Moreover, healthcare professionals who are trained in IUDs are more likely to prescribe them. Therefore, it is essential to provide accurate and comprehensive information about IUDs to women, with trained healthcare workers playing a key role (17-20).

There are limitations that need to be presented. Firstly, this was a cross-sectional study and therefore no causation can be established. The study sample size is very low and the response rate from the participants were low as well as only 41.1% of the women who were asked, participated in this study. This study included only adult women in Herat province of Afghanistan who could communicate in the Dari language. Therefore, the result of this study cannot be considered as general. Women employed in the health sector, including volunteers, were also excluded as they may affect the outcome of the survey results due to their training background. For future studies, the modest sample size used in the present study can be increased and the survey may be performed in more provinces in order to establish comparisons in the experience of women and knowledge of IUD health.

Despite its limitations, this study provides valuable insights into the current knowledge and practice of Afghan women towards IUDs. It highlights the need for targeted interventions that address the specific needs and challenges of this population. By promoting access to accurate information and improving the availability and accessibility of modern contraceptives, including IUDs, women in Afghanistan can make informed decisions about their reproductive health, contributing to their overall well-being and that of their families and communities.

## Conclusion

Government and health organizations should provide trainings focused on increasing knowledge of IUD and its related issues. The programs should also persuade women to use IUD and emphasize its safety.

Training should be targeted not only to women, but to family practice physicians, nurse practitioners, and other providers who offer family planning counseling and services. Awareness programs should be conducted for raising awareness and providing training to men and boys in communities regarding contraception, particularly focusing on IUDs.

## Conflict of interests

The authors declare that they have no conflict of interest.

## References

1. *Intrauterine devices (IUD) - world health organization [Internet]. [cited 2023Feb17]. Available from: [https://cdn.who.int/media/docs/default-source/universal-health-coverage-compendium-documents/who\\_dashboard\\_nov\\_2020\\_04122020-3-12-iud.pdf?sfvrsn=e184780b\\_13](https://cdn.who.int/media/docs/default-source/universal-health-coverage-compendium-documents/who_dashboard_nov_2020_04122020-3-12-iud.pdf?sfvrsn=e184780b_13)*
2. *Bansode OM, Sarao MS, Cooper DB. Contraception. StatPearls Publishing; 2022 [cited 2023Feb17]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK536949/>*
3. *Lanzola EL, Ketvertis K. Intrauterine Device. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 [cited 2023 Feb 17]. Available from: <http://www.ncbi.nlm.nih.gov/books/NBK557403/>*
4. *Danna K, Jaworski G, Rahaivondrafahitra B, Rasoanirina F, Nwala A, Nqumayo M, et al. Introducing the hormonal Intrauterine Device in Madagascar, Nigeria, and Zambia: results from a pilot study. *Reprod Health.* 2022 Jan 6;19:4.*
5. *Mittal S. Emergency contraception: which is the best? *Minerva Ginecol [Internet].* 2016 [cited 2023 Feb 17];68(6):687–99. Available from: <https://pubmed.ncbi.nlm.nih.gov/27082029/>*
6. *Family Planning - A Global Handbook for Providers [Internet]. World Health Organization. World Health Organization; [cited 2023Feb17]. Available from: <https://www.who.int/publications-detail-redirect/9780999203705>*
7. *Matos JE, Balkaran BL, Rooney J, Crespi S. Preference for Contraceptive Implant Among Women 18-44 years old. *Womens Health Rep (New Rochelle) [Internet].* 2021 [cited 2023 Feb 17];2(1):622–32. Available from: <https://pubmed.ncbi.nlm.nih.gov/35141710/>*

8. Central Statistics Organization Ansari Watt, Kabul, Afghanistan , Ministry of Public Health Wazir Akbar Khan, Kabul, Afghanistan , & The DHS Program ICF Rockville, Maryland, USA. 2017 Jan. Afghanistan Demographic and Health Survey 2015. [cited 2023 Feb 17] available from [https://www.rhsupplies.org/uploads/tx\\_rhscpublications/Afghanistan - 2017.pdf](https://www.rhsupplies.org/uploads/tx_rhscpublications/Afghanistan - 2017.pdf)
9. Siddiqui M, Fatima K, Ali SN, Fatima M, Naveed W, Siddiqui F, et al. Prevalence and Predictors of Contraception Usage in Karachi, Pakistan. *Cureus*. 12(10):e11265.
10. Sharma A, McCabe E, Jani S, Gonzalez A, Demissie S, Lee A. Knowledge and attitudes towards contraceptives among adolescents and young adults. *Contracept Reprod Med*. 2021 Jan 5;6:2.
11. Mishra N, Panda M, Pyne S, Srinivas N, Pati S, Pati S. Barriers and enablers to adoption of intrauterine device as a contraceptive method: A multi-stakeholder perspective. *J Family Med Prim Care*. 2017;6(3):616–21.
12. Borges ALV, Araújo KS, Santos OA dos, Gonçalves RFS, Fujimori E, Divino E do A. Knowledge about the intrauterine device and interest in using it among women users of primary care services. *Rev Latino-Am Enfermagem [Internet]*. 2020 Feb 14 [cited 2023 Feb 17];28. Available from: <http://www.scielo.br/j/rlae/a/MBdtsctXQTtVZhMX6rmyQzB/?lang=en>
13. Dereje N, Engida B, Holland RP. Factors associated with intrauterine contraceptive device use among women of reproductive age group in Addis Ababa, Ethiopia: A case control study. *PLoS One [Internet]*. 2020 [cited 2023 Feb 17];15(2):e0229071. Available from: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0229071>
14. UNESCO stands with all Afghans to ensure youth and adults in Afghanistan, especially women and girls, achieve literacy and numeracy by 2030 [Internet]. UNESCO. UNESCO; [cited 2023Apr22]. Available from: <https://www.unesco.org/en/articles/unesco-stands-all-afghans-ensure-youth-and-adults-afghanistan-especially-women-and-girls-achieve>
15. Anderson N, Steinauer J, Valente T, Koblentz J, Dehlendorf C. Women's social communication about IUDs: a qualitative analysis. *Perspectives on sexual and reproductive health*. 2014 Sep;46(3):141-8.
16. Alsharif SS, Saeed RI, Alskhairi RF, Almuwallad SA, Mandili FA, Shatla M, Alskhairi R, Almuwallad S, Mandili F, Shatla Sr M. Knowledge, Attitude, and Practice of Contraception Use Among Childbearing Women in Makkah Region, Saudi Arabia. *Cureus*. 2023 Feb 10;15(2).
17. Jatlaoui TC, Riley HE, Curtis KM. The safety of intrauterine devices among young women: a systematic review. *Contraception*. 2017 Jan 1;95(1):17-39.
18. Madden T, Allsworth JE, Hladky KJ, Secura GM, Peipert JF. Intrauterine contraception in Saint Louis: a survey of obstetrician and gynecologists' knowledge and attitudes. *Contraception*. 2010 Feb 1;81(2):112-6.
19. Whitaker AK, Johnson LM, Harwood B, Chiappetta L, Creinin MD, Gold MA. Adolescent and young adult women's knowledge of and attitudes toward the intrauterine device. *Contraception*. 2008 Sep 1;78(3):211-7.
20. Gosavi A, Ma Y, Wong H, Singh K. Knowledge and factors determining choice of contraception among Singaporean women. *Singapore medical journal*. 2016 Nov;57(11):610.