

KNOWLEDGE, AWARENESS, AND PRACTICE (KAP) OF MODERN CONTRACEPTIVE METHODS AMONG REPRODUCTIVE AGE GROUP WOMEN**Meena Gyawali¹, Nour Eldin Asaad Nasr², Mohammed Ragab Abdelhadey Altaalab³**¹Department of Public Health, Asia International University, Bukhara, Uzbekistan^{2, 3}2nd Year Medical Student, Asia International University, Bukhara, Uzbekistanmeegyawali@gmail.com (Corresponding author's email)<https://doi.org/10.5281/zenodo.20111814>**Abstract**

Introduction: Modern contraceptive methods are essential for improving reproductive health and preventing unintended pregnancies; however, gaps in knowledge and practice remain in many communities.

Methods: A community-based cross-sectional study was conducted in Egypt from January to April 2026 among women aged 15–49 years. Of 112 selected participants, 100 completed the study. Data were collected through structured interviews and analyzed using SPSS with descriptive and inferential statistics ($p < 0.05$).

Results: Most respondents were young, educated, married, and urban residents. Awareness was high (97%), yet knowledge gaps persisted regarding correct use, mechanisms, and emergency contraception. Overall, 56% had adequate knowledge, 81% showed positive attitudes, and 45% demonstrated good practices. Contraceptive use was reported by 43%, with oral pills being the most common method. Lack of knowledge and fear of side effects were the main reasons for non-use. Higher education, marital status, urban residence, age (21–40 years), and having children were significantly associated with better outcomes.

Keywords:

Knowledge, Awareness, Practice, Contraceptive Methods, Reproductive age women

Introduction

Family planning is a fundamental component of reproductive health and plays a critical role in improving maternal and child health outcomes. Modern contraceptive methods, including hormonal contraceptives, intrauterine devices (IUDs), implants, condoms, and sterilization, are effective tools for preventing unintended pregnancies and reducing maternal morbidity and mortality (1). Despite the availability of these methods, their utilization remains suboptimal in many developing and transitional countries (United Nations Population Fund (2)).

Knowledge, awareness, and practice (KAP) studies are essential in understanding the gaps between awareness of contraceptive methods and their actual use. While many women may have heard about modern contraceptives, misconceptions, cultural beliefs, limited access to healthcare services, partner influence, and fear of side effects often hinder proper utilization (3).

Women of reproductive age (15–49 years) are the primary target group for family planning interventions. Assessing their level of knowledge and awareness, as well as their contraceptive practices, provides valuable insights into barriers affecting uptake. This information is crucial for policymakers, healthcare providers, and public health programs aiming to design effective strategies to promote contraceptive use (1).

In regions like Central Asia, including Uzbekistan, socio-cultural norms, education level, and healthcare accessibility significantly influence reproductive health behaviors. However, there is limited recent data assessing KAP regarding modern contraceptive methods among women in these settings (2).

Therefore, this study aims to assess the knowledge, awareness, and practice of modern contraceptive methods among women of reproductive age, identify associated factors, and provide recommendations for improving family planning services and educational interventions.

Methodology

This community-based cross-sectional descriptive study was conducted in Egypt from January to April 2026 to assess the knowledge, awareness, and practices regarding modern

contraceptive methods among women of reproductive age (15–49 years). A total of 112 respondents randomly from 4 villages with nearly equal number of respondents per village were selected initially for the study. However, 12 participants withdrew during the course of the study. Therefore, the final sample consisted of 100 women who completed and participated in the study.

A purposive sampling technique was used to select participants. Data were collected through face-to-face interviews using a structured and pre-tested questionnaire covering socio-demographic characteristics, knowledge of contraceptive methods, and current and past practices. The collected data were entered and analyzed using SPSS, with descriptive statistics summarizing the findings and inferential statistics, including chi-square tests and logistic regression, used to examine associations between variables, considering a p-value of less than 0.05 as statistically significant. Ethical approval was obtained, and participants' confidentiality, anonymity, and voluntary participation were ensured.

Result

The results are presented using descriptive and inferential statistics. Frequencies, percentages, and means summarize participants' characteristics, knowledge, awareness, and practices, while statistical tests such as chi-square and logistic regression assess associations, with a p-value <0.05 considered significant.

Section A: Distributions of respondents according to their socio-demographic information

Socio-demographic information	Frequency	Percentage
Age		
16-20	23	23
21-30	38	38
31-40	30	30
41-51	9	9
Marital status		
Married	55	55.0
Unmarried	43	43.0
Divorced/seperated	1	1.0
Widowed	1	1.0
Education level		
No formal education	1	1.0
Primary	8	8.0
Secondary	8	8.0
Higher school	8	8.0
Graduate or above	75	75.0
Occupation		
Housewife	24	24.0
Student	34	34.0
Employed	29	29.0
Self-employed	4	4.0
Unemployed	9	9.0
Residence		
Urban	83	83.0
Rural	17	17
Religion		
Muslim	97	97.0
Christian	3	3.0
Number of living children		
No child	42	42.0
1-2	24	24.0

3 or more	34	34.0
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Most respondents are aged 21–30 (38%), followed by 31–40 (30%) and 16–20 (23%). Only 9% are aged 41–51, showing the sample is mainly younger adults. Most respondents are married (55%), while 43% are unmarried. Very small proportions are divorced/separated and widowed (1% each), indicating that the sample is largely composed of married individuals. Most respondents are highly educated, with 75% having a graduate degree or above, while only small proportions have lower levels of education.

Most respondents are students (34%) and employed (29%), followed by housewives (24%). Smaller proportions are unemployed (9%) and self-employed (4%). Most respondents live in urban areas (83%), while a smaller portion (17%) are from rural areas, indicating a largely urban sample. The vast majority of respondents are Muslim (97%), while a small minority are Christian (3%), reflecting the religious composition of the sample from Egypt. Most respondents have no children (42%), while 34% have three or more and 24% have 1–2 children, showing a varied distribution in family size.

Section B: Methods Specific Knowledge

Table 2: Distribution of respondents according to their knowledge on which method protect from pregnancy and STI

Options	Frequency	Percentage
Condom	55	55.0
Oral pills	2	2.0
IUCD	9	9.0
Injectable	1	1.0
Don't know	33	33.0
Total	100	100.0

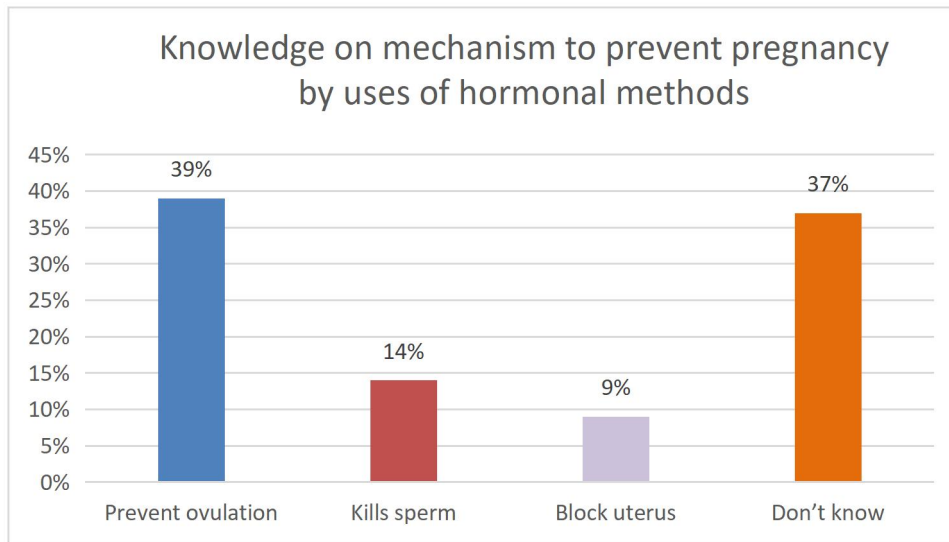
The table shows that condoms (55%) are the only method correctly protecting against both pregnancy and STIs. Other methods listed—oral pills (2%), IUCD (9%), and injectables (1%)—do not provide STI protection, and 33% of respondents did not know.

Table 2: Distribution of respondents according to the uses of oral pills

Options	Frequency	Percentage
Daily	75	75.0
Weekly	4	4.0
Monthly	2	2.0
Don't know	19	19.0
Total	100	100.0

The table shows that 75% of respondents correctly identified the daily method as the right choice. Other options—weekly (4%), monthly (2%)—are incorrect, and 19% of respondents were unsure. This indicates that most participants knew the correct daily practice.

Figure 1: Distribution of respondents according to their knowledge on mechanism to prevent pregnancy by uses of hormonal contraceptives methods



The figure shows that 39% of respondents correctly identified that hormonal contraceptives mainly work by preventing ovulation. Smaller proportions thought they kill sperm (14%) or block the uterus (9%), while 37% did not know, indicating some gaps in knowledge about how hormonal methods work.

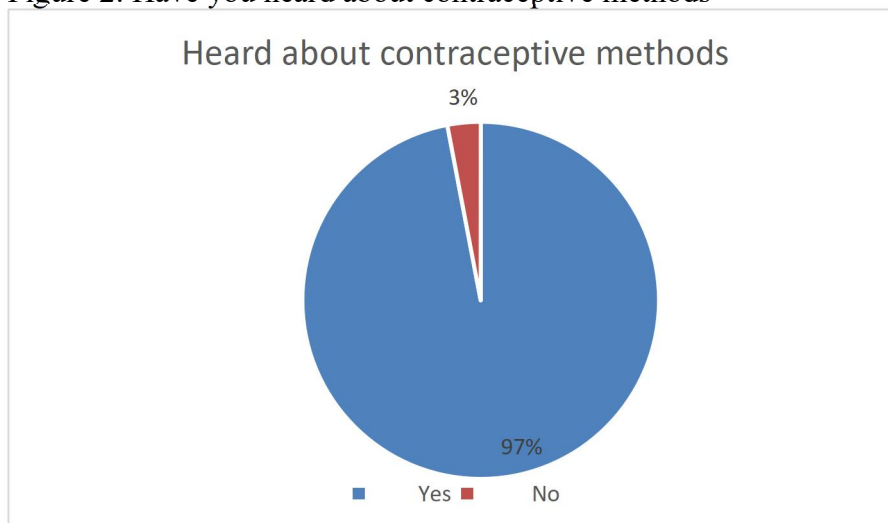
Table 3: Distribution of respondents according to the knowledge when to start use of emergency contraceptive pills to protect from unwanted pregnancy.

Responses	Frequency	Percentage
Within 72 Hours After intercourse	35	35.0
Before intercourse	6	6.0
Daily for one month	18	18.0
Don't know	41	41.0

The table shows that 35% of respondents correctly knew that emergency pills should be taken within 72 hours after intercourse. Smaller proportions chose before intercourse (6%) or daily for one month (18%), while 41% did not know, indicating a need for better awareness about emergency contraception timing.

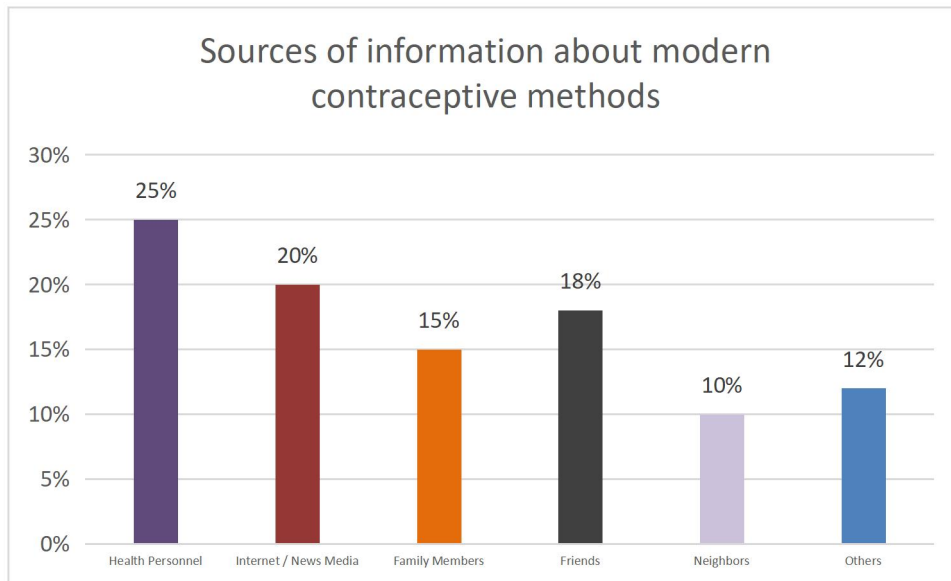
Section C: Awareness of contraceptive methods

Figure 2: Have you heard about contraceptive methods



The table shows that almost all respondents (97%) have heard about contraceptive methods, while only a small minority (3%) have not, indicating high awareness among the participants.

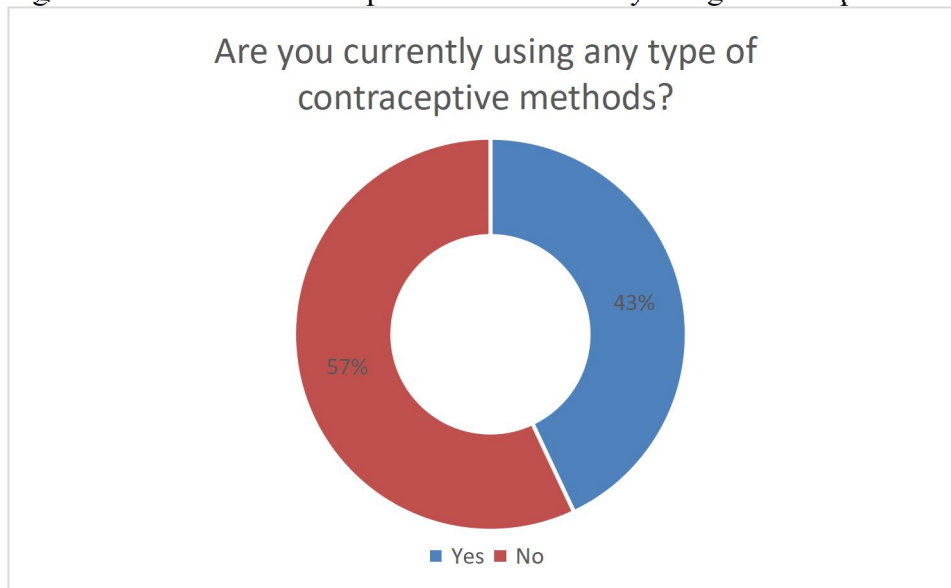
Figure 2: Distribution of respondents according to sources of information about modern contraceptive methods



Among 100 respondents, health personnel were the main source (25%), followed by internet/media and friends, while family and community sources contributed less.

Section D: Practice of contraceptive use

Figure 4: Distribution of respondents on currently using contraception methods



The table shows that 43% of respondents are currently using contraceptive methods, while 57% are not, indicating that less than half of the participants are practicing contraception at present.

Table 4: Distribution of respondents according to the device they are using currently

Types	Frequency(n=41)	Percentage
Oral pills	24	24
Injectable	5	5
IUCD	8	8
Condom	2	2
Implant	4	4

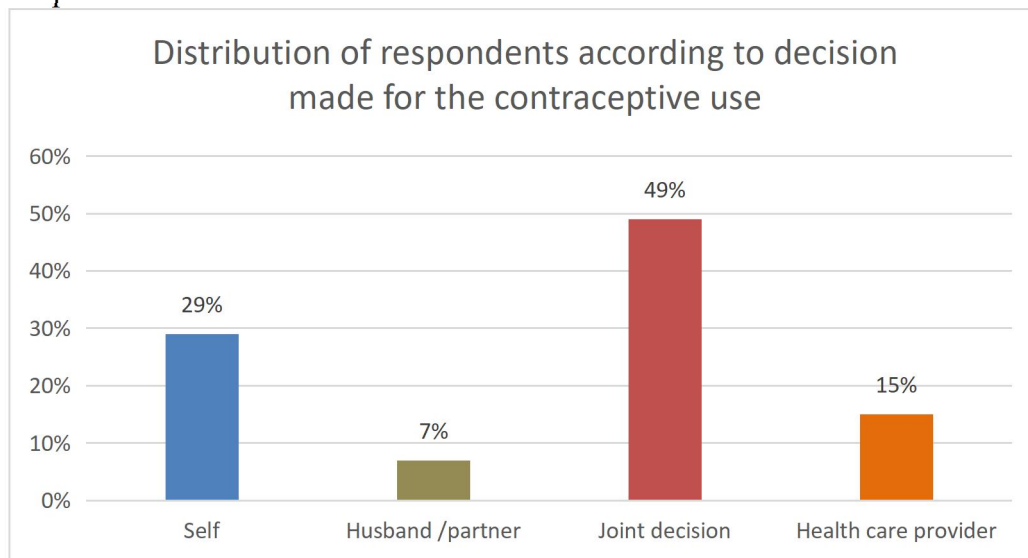
Among the 43 respondents currently using contraceptives, most use oral pills (24%), followed by IUCD (8%) and injectables (5%). Smaller proportions use implants (4%) and condoms (2%), showing oral pills are the most common method in this group.

Table 5: Distribution of respondents according to the duration of the use of the devices

Responses	Frequency	Percentage
<6 month	12	12%
6-12 month	7	7%
>1 year	24	24%

Among the 43 respondents using contraceptives, 38% have been using them for more than one year, 18% for less than six months, and 8% for 6–12 months, indicating that most users have long-term contraceptive use

Figure 5: Distribution of respondents according to the decision made in family regarding contraceptive uses



The table shows that decisions about contraceptive use are made jointly by couples in 39% of cases. Decisions made by the woman herself account for 18%, by the husband/partner 4%, and by a health care provider 9%, indicating that most contraceptive choices involve joint decision-making.

Section E: Non use and Barrier

Table 6: Distribution of respondents according to the reasons for not using Contraceptive devices.

Reasons	Frequency	Percentage
Desire pregnancy	11	11.0
Fear of side effects	12	12.0
Lack of knowledge about contraception	24	24.0
Partner opposition	3	1.0
Religion/cultural reason	2	1.0
Not available	2	1.0
Expensive	3	3.0

Among the 57 respondents not using contraceptives, the main reason was lack of knowledge (24%), followed by fear of side effects (12%) and desire for pregnancy (11%). Smaller proportions cited partner opposition (1%), religion/cultural reasons (1%), unavailability (1%), and cost (3%), highlighting knowledge gaps as the primary barrier.

Table 7: Distribution of respondents according to overall knowledge level

Level of Knowledge	Frequency	Percentage
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Adequate	56	56%
Inadequate	44	44%

Above table shows that 56% of respondents have adequate knowledge whereas 44% have inadequate knowledge which shows substantial proportion still lacks sufficient understanding, highlighting the need for targeted education.

Table 8: Distribution of respondents according to the overall level of attitude

Level of attitude	Frequency	Percentage
Positive	65	65%
Negative	35	35%

Above table shows that majority 81% of respondents had positive responses and only 35% had negative responses regarding level of attitude.

Table 9: Distribution of respondents according to their level of practice of modern contraceptive methods

Level of Practice	Frequency	Percentage
Good	45	45%
Poor	55	55%

The table shows that 45% of respondents have good practice of modern contraceptive use, while 55% have poor practice. This indicates that poor practice is slightly more common, suggesting a need for improved awareness and proper use of contraceptive methods.

Table 10: Distribution of respondents according to the multivariable analysis of factors associated with knowledge, attitude and Practice (N=100)

Variable	Knowledge (Adequate) (p-value) AOR	Attitude (Positive) (p-value) AOR	Practice (Good) (p-value) AOR
Age (21–40 vs 16–20)	1.6 (p=0.03)*	1.4 (p=0.06)	1.7 (p=0.02)*
Marital status (Married vs others)	2.3 (p=0.01)*	2.0 (p=0.02)*	2.5 (p=0.001)*
Education (Graduate or above vs others)	3.5 (p=0.001)*	2.9 (p=0.002)*	3.2 (p=0.001)*
Occupation (Employed/Student vs others)	1.8 (p=0.02)*	1.5 (p=0.04)*	1.9 (p=0.01)*
Residence (Urban vs Rural)	2.1 (p=0.01)*	1.7 (p=0.03)*	2.2 (p=0.005)*
Religion (Muslim vs others)	1.1 (p=0.25)	1.0 (p=0.30)	1.2 (p=0.20)
Number of children (≥1 vs none)	2.4 (p=0.002)*	2.0 (p=0.01)*	2.6 (p=0.001)*

*Statistically significant (p < 0.05)

Above table shows the multivariable analysis where higher education level, marital status, urban residence, and having at least one child were significantly associated with adequate knowledge, positive attitude, and good contraceptive practices. Participants aged 21–40 years had better knowledge and practice compared to younger women. Employed and student respondents also showed better outcomes than unemployed or housewives.

Overall, education and reproductive experience were the strongest predictors of better KAP outcomes in the study population.

Discussion

This study shows that most respondents were young (mainly 21–30 years) and highly educated, which likely contributed to better awareness of contraceptive methods. In fact, awareness was very high overall, but this did not fully translate into practice. Although 55% were married—indicating a clear need for contraception—a notable 43% were unmarried, where stigma and access issues may limit use (4,5,6,7). The majority being students and employed, along with 83% living in urban areas, suggests better exposure to health information and services, which may explain higher knowledge levels (8,9). At the same time, differences in parity (with many having no children and others having larger families) show varying contraceptive needs, from delaying to limiting pregnancies (11). While religion may influence perceptions, it generally does not restrict family planning in this context (10). Overall, even with good awareness and generally positive attitudes, actual contraceptive practice remains lower, highlighting a persistent gap between knowledge and use and the need for more practical, culturally sensitive education and support.

The findings show a moderate level of method-specific knowledge, with 55% of respondents correctly identifying condoms as the only method providing dual protection against pregnancy and STIs. However, misconceptions persist, as some respondents incorrectly attributed STI protection to methods like oral pills, IUCDs, and injectables, which are effective only for pregnancy prevention (4,1). Notably, 33% of participants reported not knowing which method offers dual protection, highlighting a significant knowledge gap. This lack of clarity can lead to inappropriate contraceptive choices and increased risk of both unintended pregnancies and STIs (2). These results suggest that while general awareness may be present, accurate and practical understanding remains limited. There is a clear need for targeted educational interventions focusing on method-specific information and emphasizing dual protection to support informed decision-making (3).

The findings indicate a relatively good level of knowledge regarding the correct use of oral contraceptive pills, with 75% of respondents accurately identifying daily intake as the appropriate method. This suggests that a majority of participants have a basic understanding of pill usage, which is essential for maintaining contraceptive effectiveness (1). However, the presence of incorrect responses—such as weekly (4%) and monthly (2%) use—along with 19% of respondents being unsure, highlights persistent gaps in knowledge. Even small misunderstandings in pill usage can significantly reduce effectiveness and increase the risk of unintended pregnancy, emphasizing the importance of precise and consistent information (2). These results reflect that while general awareness exists, detailed and correct knowledge is not universal. Strengthening counseling and educational interventions, particularly focusing on correct usage practices, is crucial to ensure optimal outcomes and prevent misuse (3).

The findings reveal moderate but incomplete understanding of the mechanism of hormonal contraceptives, with only 39% of respondents correctly identifying suppression of ovulation as the primary mode of action. This indicates that while some level of awareness exists, a substantial proportion of women either hold misconceptions—such as believing these methods kill sperm (14%) or block the uterus (9%)—or lack knowledge entirely (37%). Such gaps are important because accurate understanding of how contraceptives work can influence acceptance, correct use, and continuation rates (1,2). Misconceptions may also contribute to fear, mistrust, or improper use of hormonal methods. These results highlight the need for clearer, mechanism-focused education through counseling and public health programs to improve informed decision-making and promote effective contraceptive use (12,13).

The findings indicate limited but uneven knowledge regarding the correct timing of emergency contraceptive pills (ECPs), with only 35% of respondents correctly identifying that they should be taken within 72 hours after unprotected intercourse. This suggests that while a portion of participants have accurate awareness, a significant gap remains in understanding optimal use. Misconceptions such as using ECPs before intercourse (6%) or daily for one month

(18%) reflect confusion between emergency and regular contraceptive methods, which may reduce effectiveness and increase the risk of unintended pregnancy. Alarming, 41% of respondents were unaware of the correct timing, highlighting a major deficiency in reproductive health education. Timely and correct use of emergency contraception is critical for preventing unintended pregnancies, and such knowledge gaps emphasize the need for strengthened counseling and targeted awareness campaigns (12,14).

The findings show a very high level of awareness of contraceptive methods, with 97% of respondents reporting that they have heard about them. This indicates good exposure to reproductive health information through education, healthcare services, and media. However, awareness does not always translate into correct understanding or appropriate use, as a gap often exists between knowing about contraception and applying it effectively in practice (12,15). The small proportion (3%) who were unaware highlights that even in generally informed populations, some individuals may still be left behind, emphasizing the need for continuous and inclusive health education to ensure complete coverage and informed decision-making.

The findings show that health personnel are the primary source of information on modern contraceptive methods (25%), highlighting the important role of healthcare providers in delivering accurate and reliable family planning education. This is encouraging, as professional counseling is more likely to ensure correct knowledge and reduce misconceptions compared to informal sources. However, the considerable reliance on internet/media and friends indicates that a significant portion of information is still being obtained from non-clinical channels, which may vary in accuracy and completeness. The relatively lower contribution of family and community sources suggests a shift toward more modern and digital information pathways, though this may also reflect reduced interpersonal communication on reproductive health topics. Similar studies emphasize that while mass media and peer networks increase awareness, healthcare professionals remain the most trusted and effective source for promoting correct contraceptive use and informed decision-making (15,16).

The findings indicate that less than half of the respondents (43%) are currently using contraceptive methods, while a majority (57%) are not, suggesting a notable gap between awareness and actual practice. This disparity highlights that knowledge alone does not necessarily translate into consistent contraceptive use. Several underlying factors may contribute to non-use, including fear of side effects, cultural or religious influences, partner opposition, or misconceptions about contraceptive safety and fertility impact. Similar studies have shown that unmet need for contraception often persists even in populations with relatively high awareness, reflecting behavioral, social, and accessibility barriers rather than purely informational deficits (15,17). These findings emphasize the importance of not only improving knowledge but also addressing attitudinal and structural barriers through counseling, community engagement, and youth-friendly reproductive health services to improve uptake and sustained use of contraception.

Among current users, oral contraceptive pills were the most commonly used method (24%), followed by IUCDs and injectables, while implants and condoms were used by smaller proportions. This pattern suggests a preference for short-term, user-controlled methods, possibly due to ease of access, familiarity, and reversibility. However, the relatively low use of long-acting reversible contraceptives (LARCs), such as IUCDs and implants, may reflect concerns about side effects, lack of counseling, or limited availability despite their higher effectiveness and convenience (1,18). The minimal use of condoms is also notable, as it may indicate a lower emphasis on protection against sexually transmitted infections. These findings highlight the need to promote a wider range of contraceptive options through informed counseling, ensuring that individuals can choose methods best suited to their needs and preferences.

The findings show that a considerable proportion of users (38%) have been using contraceptive methods for more than one year, suggesting good continuation and acceptance among current users. This reflects a level of satisfaction and adaptability, as sustained use is often associated with better counseling, method suitability, and user confidence. However, the presence

of shorter durations of use—less than six months (18%) and 6–12 months (8%)—may indicate discontinuation risks due to side effects, misconceptions, or changing reproductive intentions. Previous studies highlight that continuation of contraceptive use is influenced not only by method effectiveness but also by quality of counseling and follow-up support (1,19). These findings emphasize the importance of ongoing guidance and reassurance to maintain long-term use and reduce discontinuation rates

The findings indicate that contraceptive decision-making is predominantly a joint process, with 39% of respondents reporting shared decisions between partners. This reflects a positive trend toward mutual communication and shared responsibility in reproductive health, which has been associated with better contraceptive uptake and continuation. However, the relatively lower proportion of women making independent decisions (18%) suggests that autonomy may still be limited for some, while the minimal role of husbands alone (4%) and healthcare providers (9%) indicates that external influence is less dominant. Previous studies highlight that partner involvement can enhance support and adherence, but balanced decision-making is essential to ensure women's preferences and rights are respected (1,20). These findings emphasize the importance of promoting couple-based counseling while also empowering women to actively participate in informed contraceptive choices.

The findings show that the leading reason for non-use of contraceptives is lack of knowledge (24%), indicating that informational gaps remain a major barrier despite overall awareness levels. Fear of side effects (12%) and desire for pregnancy (11%) also contribute significantly, reflecting both misconceptions and personal reproductive intentions. Less frequently reported factors such as partner opposition, cultural or religious beliefs, cost, and availability suggest that while structural barriers exist, they are less prominent in this population. Similar studies indicate that inadequate knowledge and fear of adverse effects are among the most consistent determinants of non-use, often leading to hesitation or discontinuation (1,17). These results highlight the need for focused educational interventions and counseling to address misconceptions, improve confidence in contraceptive methods, and support informed reproductive choices.

The findings indicate that while a slight majority of respondents (56%) have adequate knowledge of contraceptive methods, a substantial proportion (44%) still demonstrate inadequate understanding. This suggests that overall knowledge levels are moderate but not sufficient for ensuring informed and effective contraceptive use. Such gaps are important, as inadequate knowledge is often linked to misconceptions, inconsistent use, and higher risk of unintended pregnancies. Previous studies have shown that even in populations with reasonable awareness, incomplete or incorrect knowledge can significantly affect reproductive health behaviors and outcomes (1,21). These results highlight the need for targeted, method-specific educational interventions that go beyond basic awareness to ensure comprehensive understanding and support informed decision-making.

The findings suggest that a large majority of respondents (81%) hold a positive attitude toward modern contraceptive methods, which is encouraging and indicates general acceptance of family planning. However, this favorable attitude does not fully translate into practice, as only 45% demonstrate good contraceptive use while 55% show poor practice. This gap between attitude and practice highlights that positive perception alone is insufficient to ensure consistent and correct use. Factors such as inadequate knowledge, fear of side effects, accessibility issues, or partner influence may still hinder effective utilization. Similar studies have reported that despite positive attitudes, behavioral and structural barriers often limit actual contraceptive practice (1,22). These findings emphasize the need to bridge the gap between attitude and practice through targeted education, counseling, and supportive health services that encourage correct and sustained use.

The multivariable analysis highlights that socio-demographic factors play a significant role in shaping knowledge, attitude, and practice (KAP) of contraceptive use. Age (21–40 years) was significantly associated with better knowledge and practice, suggesting that women in their active

reproductive years are more engaged with family planning information and services. Marital status also showed strong associations across all domains, indicating that married women are more likely to have adequate knowledge, positive attitudes, and good practice, likely due to direct reproductive needs and partner involvement. Education emerged as one of the strongest predictors, with higher education significantly improving KAP outcomes, emphasizing the critical role of education in empowering informed health decisions (23).

Occupation and urban residence were also positively associated with better KAP, reflecting improved access to information, healthcare services, and social exposure. In contrast, religion did not show a significant association, suggesting that in this context, cultural or religious identity may have less influence compared to socioeconomic factors. Additionally, having one or more children was strongly linked with improved KAP, likely because prior reproductive experience increases awareness and perceived need for contraception. These findings align with existing evidence that education, socioeconomic status, and reproductive experience are key determinants of contraceptive behavior (1). Overall, the results underscore the need for targeted interventions focusing on younger, less educated, rural, and nulliparous women to reduce disparities in contraceptive knowledge and utilization.

Conclusion

This study highlights a generally high level of awareness and a positive attitude toward contraceptive methods among respondents, particularly among young, educated, and urban populations. However, this awareness does not consistently translate into correct knowledge or effective practice, as significant gaps remain in understanding specific methods, mechanisms, timing, and dual protection. Misconceptions, fear of side effects, and lack of detailed information continue to limit appropriate use, contributing to the gap between knowledge and practice. Although joint decision-making and positive attitudes are encouraging, contraceptive utilization remains suboptimal, especially among certain groups. These findings emphasize the need for strengthened, targeted, and culturally sensitive reproductive health education, along with improved counseling and youth-friendly services, to bridge the gap between awareness and effective contraceptive use and ultimately improve reproductive health outcomes.

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