

Women Perception Regarding Trans-Sectional Intrauterine Device

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Abstract

Background: The trans-sectional intrauterine device (IUD) offers a highly effective, dependable, economical, and durable form of contraception, inserted within ten minutes following placental delivery. **Aim:** to assess women perception regarding trans-sectional intrauterine device. **Design:** A descriptive research design was employed to meet the study aim. Setting: This study was executed in the Antenatal Clinics at Ain Shams University Maternity Hospital. Subject: A purposive sample of 126 pregnant women was recruited. **Tools:** Two tools of data collection were used: **Tool I** structured interviewing questionnaire sheet, **Tool II** women attitude regarding post-placental IUD insertion. **Results:** showed that 60.3% of studied sample had fair level of knowledge about IUD insertion during cesarean section. While, 56% of them had positive attitude toward IUD insertion during cesarean section. **Conclusion:** In conclusion, the study successfully addressed its aim, revealing that less than two-thirds of the women surveyed possessed a moderate level of knowledge concerning intrauterine device insertion during cesarean delivery. Additionally, more than half of the respondents demonstrated a positive attitude toward this contraceptive method. No statistically significant relationship was found between overall knowledge and attitudes regarding trans-sectional IUD insertion. **Recommendations:** Implement educational programs targeting pregnant women to enhance their understanding and attitudes toward trans-sectional intrauterine device insertion.

Keywords: Perception, Trans-sectional Intra Uterine Device

Introduction

Family planning encompasses the intentional application of contraceptive methods to regulate the timing and number of offspring desired by couples. It constitutes a fundamental component of primary healthcare that contributes to enhancing maternal and neonatal health, empowering women, and facilitating informed reproductive choices. Furthermore, family planning is considered a strategic measure to counteract overpopulation concerns (Alkalash et al., 2023).

Perception, defined as the manner in which an individual interprets or understands a phenomenon, is pivotal in comprehending how pregnant women view contraceptive options. Assessing such perceptions is essential for guiding women towards selecting the most appropriate contraceptive method that aligns with their needs and health objectives (Muna & Mahiti, 2022).

The intrauterine device (IUD) is considered one of the most commonly used and effective contraceptive methods. In Egypt, its popularity surpasses that of other long-acting

hormonal methods given its safety profile, cost-efficiency, non-sexual interference, absence of systemic side effects, and rapid reversibility upon removal (Andreia et al., 2022).

A critical challenge associated with IUD use is the risk of displacement, particularly extrauterine migration, which can result in unintended pregnancies and may necessitate surgical intervention. Such complications can be minimized by adhering to aseptic procedures during insertion and selecting the optimal timing for placement (Ahmed et al., 2022).

Insertion of IUDs immediately post-placental delivery during cesarean section—within ten minutes—has emerged as an advantageous strategy to improve postpartum contraception uptake. This approach obviates the need for separate follow-up visits, ensures safety and efficacy, and decreases expulsion rates, thereby meriting consideration as a standard clinical practice (Brown, 2021).

Recent evidence recommends prompt post-delivery insertion to maximize effective contraceptive coverage, reduce procedural

discomfort, and facilitate convenience, especially in regions with high fertility rates where women express strong motivation to commence contraception postpartum (Elkholy et al., 2022).

This method offers several benefits including compatibility with breastfeeding, minimized insertion-related discomfort, and the ability to confirm non-pregnancy status, thereby prioritizing contraceptive use (Joyce, 2022).

Given the pivotal role of maternity nurses in advancing Egypt's 2030 strategic population goals, understanding factors influencing contraceptive uptake—including knowledge gaps, attitudes, and barriers—is essential to enhance family planning services and meet unmet needs (Mohammed, 2024).

Justification of the Study

The Egyptian Strategic Plan 2030 aims to manage population growth through efficient resource use. Overpopulation remains a significant issue in developing countries. Despite increased access to contraception, acceptance rates remain low due to lack of awareness or fear of side effects (Muna et al., 2022).

The postpartum period presents a high risk for unintended pregnancy, especially since contraceptive choices are limited for breastfeeding women. Additionally, ovulation is unpredictable in women who do not exclusively breastfeed, making this period an optimal time to initiate contraception, as women tend to be more motivated and it offers convenience for both women and healthcare providers (Al Safty &, Al Kenani 2023)

Aim

To assess women perception regarding trans-sectional intrauterine device through:

- 1- Assess women knowledge regarding trans-sectional intrauterine device.
- 2- Assess women attitude regarding trans-sectional intrauterine device.

Research questions:

- 1- What is the women level of knowledge regarding trans-sectional intrauterine device?
- 2- What is the women attitude regarding trans-sectional intrauterine device?

Subjects and Methods

A-Study Design:

A descriptive research design was adopted for this study.

B- Setting:

The research was implemented in at the Antenatal Clinics located on the second floor of the outpatient department at Ain Shams University obstetric Hospital.

C- Sampling:

Sample type:

Purposive sampling was utilized.

Sample criteria:

Inclusion criteria:

Pregnant women aged between 18 and 40 years, planning for elective cesarean delivery, and at gestational ages “36 - 40 wks”.

Exclusion criteria:

Emergency cesarean sections, gestational age outside the 36–40-week range, uterine abnormalities such as classical cesarean scars, placenta previa or accreta, uterine fibroids, history of ectopic pregnancy, bleeding disorders, recurrent pelvic inflammatory disease, and current sexually transmitted infections.

Sample size:

The sample size was calculated to be 126, selected from 9,600 women attending the facility over one year, with a 95% confidence level based on Thompson's formula (2012).

$$n = \frac{N \times p(1-p)}{\left[\frac{d^2}{z^2} + p(1-p) \right]}$$

D-Tools for data collection:

Data was gathered through using two tools:

Tool 1: A structured interviewing questionnaire sheet, it was designed by research based on reviewing of the related literatures (Thota et al., 2023). It consists of four parts as the following:

Part I: demographic characteristics of the studied women such as age, duration of marriage, job, residence & educational level.

Part II: women's obstetric history, included gravidity, parity, abortion, number of children, and mode of the last delivery, occurrence of unintended pregnancy and causes of it.

Part III: It involved family planning history as using of any Family planning (FP) method, type of FP method used, complications occurred during used, hearing about insertion of IUCD during cesarean section, women's information source, and intention to use trans sectional IUCD.

Part IV: It was developed by the researchers based on literature review (Muna& Mahiti,2022), and has ten items that assess women's knowledge of trans sectional IUCD (definition, advantages, disadvantage, when to use, indications, contraindication, time of insertion, effectiveness, mechanism of action, and side effects).

Knowledge scoring system:

Consists of 10 questions scored 1 points for a incorrect answer, 2 for incomplete correct, and 3for complete correct, totaling 0–30 points. Scores <50% indicate poor knowledge, 50-75% fair, and >75% good (Hassan et al., 2020).

Tool II: women attitude regarding Post-placental intrauterine contraceptive device insertion:

An attitude assessment scale that contained a three-point Likert-like scale (Disagree, uncertain, & agree) was included, to assess women's attitudes towards IUDs across the sector (Brown, 2021). There were 7 statements, and women asked to replay to one of the options.

Attitude scoring system:

consisting of 7 statements scored on a 3-point Likert scale: disagree scored by one point, uncertain scored by two points and agree attitude scored by three. Scores <60% denote a negative attitude, and ≥60% a positive attitude (Brown, 2021).

Ethical Considerations:-

Ethical approval was secured from the Scientific Research Ethics Committee at the Faculty of Nursing, Ain Shams University. Participants provided informed consent after receiving comprehensive explanations about the study, with assurances of confidentiality and the right to withdraw at any time

Validity and Reliability:

A panel of three obstetric and gynecologic nursing experts evaluated the content validity of tools, they determined that the tools were comprehensive, clear, relevant, understandable, and applicable. Reliability was verified using Cronbach's alpha, yielding a score of 0.8, indicating good internal consistency.

Administrative design:

Ethical approval was obtained from the Scientific Research Ethics Committee at the Faculty of Nursing, Ain Shams University. Participants provided informed consent after receiving comprehensive explanations about the study, with assurances of confidentiality and the right to withdraw at any time.

Operational Design:

• Preparatory phase:

The research team reviewed the current local and international literature using books,

articles, and scientific journals in order to design the tools.

- **Pilot study:**

A pilot study was done on 10 % (13 pregnant women) to evaluate the usability and clarity of tools, determine any potential obstacles that could hinder the researcher, and interfere with data collection,, no modification was done and those pregnant women weren't excluded.

Fieldwork:

Following approval, data were collected over two days per week (9 am to 1 pm) at the study site. The researcher conducted face-to-face interviews lasting approximately 30 minutes per participant, ensuring voluntary participation and confidentiality.

Statistical design:

Data were coded, organized, and analyzed using SPSS version 25. Descriptive statistics, Chi-square tests, and correlation analyses were employed with significance set at $p < 0.05$.

Results

Table (1): presented the socio-demographic profile of the study participants. Approximately (50.8%) were aged between 19 and under 30 years, with a mean age of 29.49 ± 6.67 years. Urban residence was reported by 57.9%, and 75.4% had been married for 1 to 10 years. More over, (54%) held diploma-level education, and 79.4% were unemployed.

Table (2): outlined obstetric and gynecological histories. Around 70.6% had been pregnant 1 to 3 times, with 71.4% delivering 1 to 3 children, and 73% reported no history of miscarriage. The majority (90.8%) had undergone cesarean section in their most recent delivery. About 18.3% experienced unintended pregnancies, primarily due to non-use or incorrect use of contraceptives. Most women

(81.7%) had regular menstruation lasting 3 to 5 days for 73% of participants.

Table (3) summarized (65.9%) reported previous contraceptive use, with oral contraceptive pills being the most common method (45.8%). Most women (68.3%) did not report complications, whereas 25% who experienced issues cited menorrhagia among other problems.

Figure (1): illustrated that only 0.8% had a good knowledge level about IUD insertion during cesarean sections, while 60.3% possessed fair knowledge, and 38.9% had poor knowledge. **Figure (2):** showed that 56% held positive attitudes toward IUD insertion during cesarean delivery, whereas 44% conveyed negative attitudes.

Table (4): Showed the relation between mothers' total knowledge and their socio-demographic characteristics. Significant associations were found between knowledge levels and participants' age ($p < 0.001$) and duration of marriage ($p < 0.05$)

Table (5): presented the relation between mothers' total attitude and their socio-demographic characteristics. there were significantly correlated with age ($p < 0.001$), residence ($p < 0.05$), and duration of marriage ($p < 0.05$).

Table (6): outlined No significant relationships were observed between knowledge and family planning history ($p > 0.05$).

Table (7): reveals the relation between mothers' total attitude and their family planning history. attitudes were significantly associated with contraceptive use ($p < 0.001$) and problems encountered during usage ($p < 0.05$).

Table (8): indicated no statistically significant correlation between overall knowledge and attitude scores regarding IUD insertion during cesarean section ($p > 0.05$).

Table (1): Distribution of the studied mothers according to their characteristics (n=126).

Mothers' characteristics	No.	%
Age in years		
19<30 yrs.	64	50.8
30<40 yrs.	52	41.3
≥40 yrs.	10	7.9
Mean ±SD 29.49 ± 6.67		
Residence		
Urban	73	57.9
Rural	53	42.1
Duration of marriage		
1-10yrs.	95	75.4
11-20yrs.	24	19.0
>20yrs.	7	5.6
Education		
Diploma	68	54.0
University	58	46.0
Occupation		
Working	26	20.6
Not working	100	79.4

Table (2): Distribution of the studied mothers according to their obstetrical & gynecological history (n=126).

Obstetrical history	No.	%
Number of pregnancy		
1-3 times	89	70.6
4-6 times	36	28.6
>6 times	1	0.8
Number of birth		
0	17	13.5
1-3 times	90	71.4
4-6 times	19	15.1
Number of abortion		
0	92	73.0
1-3 times	30	23.8
4-6 times	3	2.4
>6 times	1	0.8
Number of children		
0	23	18.3
1-3 children	86	68.3
4-6 children	17	13.5
Type of last delivery (n=109)		
Normal vaginal delivery	10	9.2
Cesarean section	99	90.8
Incidence of unwanted pregnancy		
Yes	23	18.3
No	103	81.7
If yes, mention the cause (n=23)		
Not using a birth control method	8	34.8
Mistake in using birth control method	8	34.8
Don't know about birth control method	1	4.3
Other causes	6	26.1
Regularity of menstruation		
Regular	103	81.7
Irregular	23	18.3
Duration of menstruation		
Less than 3 days	12	9.5
3-5 days	92	73.0
≥6 days	22	17.5

Table (3): Distribution of the studied mothers according to their family planning history (n=126).

Family planning history	No.	%
Use of birth control method		
Yes	83	65.9
No	43	34.1
If yes, mention type (n=83)x		
IUD	33	39.8
Pills	38	45.8
Injection	12	14.4
Have problem with birth control method		
Yes	40	31.7
No	86	68.3
If yes, mention (n=40)		
Bleeding	12	30
Urethritis	8	20
Menorrhagia	11	27.5
Stomachache	9	22.5

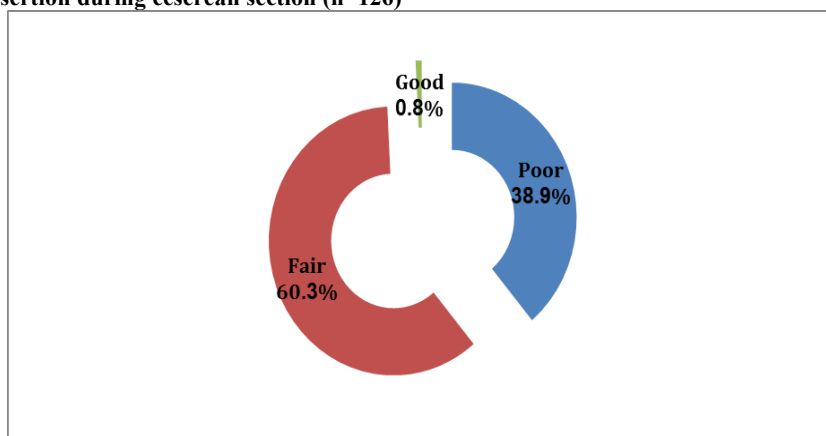
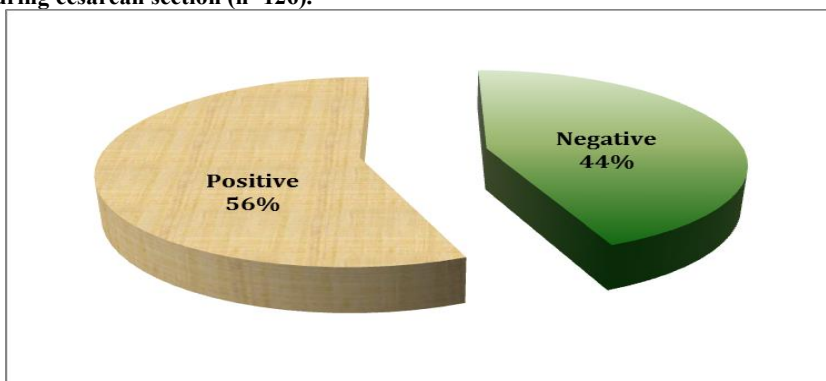
Figure (1): Percentage distribution of the studied pregnant women' total knowledge about IUCD insertion during cesarean section (n=126)**Figure (2): Percentage distribution of the studied pregnant women' total attitude toward IUCD insertion during cesarean section (n=126).**

Table (4): Relation between studied mothers' total knowledge and their socio-demographic characteristics

Socio-demographic characteristics	Total knowledge score (126)						X ²	p-value
	Good		Fair		Poor			
	No.	%	No.	%	No.	%		
Age in year								
19<30 yrs.	1	0.8	52	41.3	11	8.7	26.6	<0.001**
30<40 yrs.	0	0	21	16.7	31	24.6		
≥40 yrs.	0	0	3	2.4	7	5.6		
Residence								
Urban	0	0	40	31.7	33	26.2	4.03	0.13
Rural	1	0.8	36	28.6	16	12.7		
Duration of marriage								
1-10yrs.	1	0.8	65	51.6	29	23	11.66	0.02*
11-20yrs.	0	0	9	7.1	15	11.9		
>20yrs.	0	0	2	1.6	5	4		
Education								
Diploma	1	0.8	35	27.8	32	25.4	5.31	0.07
University	0	0	41	32.5	17	13.5		
Occupation								
Working	0	0	19	15.1	7	5.6	2.35	0.31
Not working	1	0.8	57	45.2	42	33.3		

Chi-square test (p-value >0.05 NS; *p-value <0.05 S; **p-value <0.001 HS)

Table (5): Relation between studied mothers' total attitude and their socio-demographic characteristics

Socio-demographic characteristics	Total attitude score (126)					
	Positive		Negative		X2	p-value
	No.	%	No.	%		
Age in year						
19<30 yrs.	35	27.8	29	23	16.49	<0.001**
30<40 yrs.	36	28.6	16	12.7		
≥40 yrs.	0	0	10	7.9		
Residence						
Urban	35	27.8	38	30.2	4.98	0.02*
Rural	36	28.6	17	13.5		
Duration of marriage						
1-10yrs.	54	42.9	41	32.5	11.09	0.004*
11-20yrs.	17	13.5	7	5.6		
>20yrs.	0	0	7	5.6		
Education						
Diploma	34	27	34	27	2.42	0.08
University	37	29.3	21	16.7		
Occupation						
Working	15	12	11	8.7	0.02	0.53
Not working	56	44.4	44	34.9		

Chi-square test (p-value >0.05 NS; *p-value <0.05 S; **p-value <0.001 HS)

Table (6): Relation between studied pregnant women' total knowledge and their family planning history

Family planning history	Total knowledge score (126)							
	Good		Fair		Poor		X ²	p-value
	No.	%	No.	%	No.	%		
Use of birth control method								
Yes	0	0	45	35.7	37	29.4	4.92	0.08
No	1	0.8	30	23.8	12	9.5		
Had problem with its use								
Yes	0	0	23	18.3	17	13.5	0.74	0.69
No	1	0.8	53	42.1	32	25.4		

Chi-square test (p-value >0.05 NS; *p-value <0.05 S; **p-value <0.001 HS)

Table (7): Relation between studied pregnant women' total attitude and their family planning history

Family planning history	Total attitude score (126)					
	Positive		Negative		X ²	p-value
	No.	%	No.	%		
Use of birth control methods						
Yes	56	44.4	27	21.4	12.23	<0.001**
No	15	11.9	28	22.2		
Had problems with its use						
Yes	30	23.8	10	7.9	8.29	0.003*
No	41	32.5	45	35.7		

Chi-square test (p-value >0.05 NS; *p-value <0.05 S; **p-value <0.001 HS)

Table (8): Correlation between studied pregnant women' total attitude and their total knowledge toward IUCD insertion during cesarean section

Total knowledge score	Total attitude score					X ²	p-value
	Positive		Negative				
	No.	%	No.	%			
Good	1	0.8	0	0	0.129	0.15	
Fair	46	36.5	30	23.8			
Poor	24	19	25	19.8			

Pearson's R (p-value >0.05 NS; *p-value <0.05 S; **p-value <0.001 HS)

Discussion

The postpartum phase represents a critical period wherein women require optimized health interventions due to heightened risks of complications and susceptibility to unplanned pregnancies. The intrauterine device (IUD) is a prevalent and effective long-acting reversible contraceptive in Egypt, offering failure rates below 1% with both perfect and typical use (Seleem et al, 2023). The present study confirms that post-placental IUD insertion during cesarean sections is an effective, safe and practical method with minimal increases in operative time, associated with fewer complications compared to delayed insertion (Al Safty et al, 2023).

Based on this important issue the current study was conducted to assess women

perception regarding trans-sectional intrauterine device.

As regard socio demographic data, the result of the present study revealed that about half of the studied mothers were "19-<30 years old with the mean age of (29.49±6.67). Moreover, more than half of them live in urban areas, and that three quarter of them have been married for 1 to10 years. Also, more than half of them had diploma and about three quarter of them are not working.

These findings partially consistent with similar research in Ethiopia by (Krishna et al., 2022). In their study of 599 respondents, the mean age was 27.49±6.51 years, with the majority being married. However, nearly a quarter had a college degree or higher, and more than half were homemakers. The variation in

results can be attributed to the differing community settings in which each study was conducted despite minor variances attributable to differing community contexts.

Concerning obstetrical history. Nearly two-thirds of current study sample had been pregnant and given birth 1 to 3 times, with less than three-quarters reporting no history of miscarriage. Most participants had undergone a cesarean section during their last delivery. Additionally, less than one-quarter experienced unwanted pregnancies, and among these, one-third attributed it to not using a contraceptive method or improper contraceptive use. Furthermore, over three-quarters of the women reported having regular menstruation, with nearly three-quarters experiencing menstruation lasting 3 to 5 days.

The present study on the same line with **Guye, et al. (2023)** who noted that over half of the women had given birth two to three times, with mean numbers of alive and wanted children being 2.46 and 4.14, respectively. More than three-quarters of mothers had utilized family planning methods prior to this pregnancy.

Regarding family planning utilization, contraceptive actual usage varied. Approximately two-thirds reported prior contraceptive use, mostly oral pills, which contrasts with **Pal et al. (2022)** who noted reliance on natural methods in India.

The findings from this study contrast with those of **Simon and Lizzie (2021)**, who noted that the minority of participants use condoms or Depo-Provera, pills or patches, IUDs, and implants. Notably, the majority indicated that they had never used any form of implant or IUD.

A significant reason for not opting for contraception was due to husbands' objections, with minority of participants reporting uncertainty about which method to choose. The most commonly cited reasons for fear of infertility

The knowledge about IUD insertion during cesarean section was fair in the majority, with a minority demonstrating good knowledge. a pattern mirrored in **Hussein et al. (2024)**. This similarity

suggests ongoing gaps in contraceptive education despite existing resources.

Concerning the relation between pregnant women' total knowledge and their socio-demographic characteristics. It was noticed that Knowledge levels were significantly influenced by age, duration of marriage, number of pregnancies, abortions, births, and children ($p\text{-value} < 0.05$)

As regard the relation between mothers' total knowledge and their obstetrical and gynecological history. It was noticed that there was a high significant relation between mothers' total knowledge and their number of pregnancy ($p\text{-value} < 0.001$) and there was a significant relation between their total knowledge and number of abortion, birth and children ($p\text{-value} < 0.05$)

The pervious study findings were partially agreement with (**Krishna et al., 2022**), they stated that multiparity, education above secondary level, and middle to higher socio-economic status, as well as consultations with health workers, were important indicators of knowledge, and they found no significant relationship between a women's age and their level of knowledge. ($p=0.41$).

Examining the relationship between mothers' total knowledge and their socio-demographic characteristics revealed a significant correlation between total knowledge and age ($p\text{-value} < 0.001$), as well as a significant relationship between total knowledge and the duration of marriage ($p\text{-value} < 0.05$).

This was in contrary with (**Elkhateeb et al., 2020**), they revealed that there was significant relation between mothers' total knowledge and their family planning history ($p\text{-value} > 0.05$)

The current study finding revealed over half of the sample held positive attitude toward IUD insertion at cesarean delivery

The previous finding was in opposite with (**Hussein et al., 2024**), they illustrate that nearly half of the participants had a negative attitude toward post placental intrauterine

contraceptive without significant difference ($P = 0.559$).

In this current study, Attitudes showed significant association with age, residence, duration of marriage, aligning with numerous behavioral studies recognizing these as determinants of contraceptive acceptance ($p\text{-value} < 0.05$).

As regard the relation between mothers' total attitude and their family planning history. It was noticed that there was a high significant relation between mothers' total attitude and use of birth control methods with ($p\text{-value} < 0.001$) and a significant relation between women's total attitude and had problems with use of birth control methods with ($p\text{-value} < 0.05$).

Importantly, no significant correlation was noted between knowledge and attitudes in this study ($p\text{-value} > 0.05$), consistent with **Lucy et al. (2021)**, who found knowledge gaps often persist despite improved attitudes and practices over time "6 and 24 months".

Overall, participants exhibited positive attitudes but insufficient knowledge, underscoring the need for enhanced education and counseling to improve understanding and acceptance of immediate postpartum IUD insertion.

Conclusion

In conclusion, the study successfully addressed its aim, revealing that less than two-thirds of the women surveyed possessed a moderate level of knowledge concerning intrauterine device insertion during cesarean delivery. Additionally, more than half of the respondents demonstrated a positive attitude toward this contraceptive method. No significant association was found between overall knowledge and attitudes regarding trans-sectional IUD insertion.

Recommendations

According to the results of this study, it is advised that:

- Implement educational programs targeting pregnant women to enhance their understanding and attitudes toward trans-sectional intrauterine device insertion.

- Replicate this study using larger, probabilistically selected samples across diverse settings to improve the generalizability of findings.

For further research in this field;

- Integrate awareness initiatives within antenatal clinics, involving partners where feasible, to bolster both knowledge and positive attitudes concerning trans-sectional IUD use.

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