

# Factors Affecting Contraceptive Choice and Discontinuation Among Married Women in Iraqi Kurdistan

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## ABSTRACT

**Background & Objective:** Fertility control has been used for thousands of years in a variety of ways. Women need to use contraceptive methods correctly to reduce unintended pregnancies and maternal mortality. The purpose of this research was to determine the factors that have an impact on the use of contraception in our community.

**Materials & Methods:** During the time period of December 2021 to April 2022, a descriptive cross-sectional study was conducted in primary healthcare centers in the city of Duhok, which is located in the Kurdistan Region of Iraq. A total of 400 married women between the ages of 18-45 years were studied. Information on sociodemographic characteristics, obstetrical history, contraceptive methods used, deciding factors, and discontinuation were obtained from respondents. The statistical calculations were performed in John's Macintosh Project (JMP project, version 14.3.0, Apple Macintosh. USA).

**Results:** Out of 400 women, 269 (67.25%) were aged 18-34, 106 (26.50%) completed primary education, and 204 (51.00%) desired to conceive. The most frequently used method was withdrawal 257 (64.25%), followed by oral contraceptive pills 43 (10.75%), Intrauterine contraceptive devices 39 (9.75%), and male condoms 35 (8.75%). For the purpose of becoming pregnant, 256 (64.00%) women stopped using contraceptives. Most of the failure rates were seen among withdrawal users, which recorded 77 (19.25%), and those who experienced side effects were 42 (10.50%).

**Conclusion:** In every district of Dohuk, there is a need for comprehensive, easily accessible, client-centered, and modern family planning services. Educational program is requested to improve the behavior and attitude toward family control.

**Keywords:** Contraceptive choice, Discontinuation, Married women, Iraqi Kurdistan



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## Introduction

The United Nations estimates that around 740 million couples, or 63% of all coupled, reproductive-aged women, use some type of contraception. 90% of them employed contemporary techniques like oral pills, condoms, injections, intrauterine devices, and even sterilization (1, 2). Due to issues with the healthcare system, low levels of community awareness, and low socioeconomic levels in various low- and middle-income countries, approximately 44% of all pregnancies worldwide occur unintentionally. Globally, 56% of unintended pregnancies end in induced abortion, which might lead to maternal or fetal death (3-6). Using contraceptives properly can reduce family size, give spacing between pregnancies, and prevent unwanted pregnancies (7, 8). More than half of reproductive-age women globally use contraceptives (9). In 2022, United Nations announced that short-acting users were 46.1%, and long-acting methods like (loop, implant, male and female sterilization) were

45.2%. The rest (8.7%), are using traditional methods (10). In Iraq there was some improvement in using modern methods of contraception from 1990 to 2019 (11). Women may choose the contraception based on the efficacy and/or safety of the method with minimal side effects. Some women rely on physician recommendation, others depend on the experiences of their relatives and friends. Sometimes it could be a family decision (12, 13). The level of education as well as economic status and family members could play a role in selecting the method (14-17). Contraceptive discontinuation is common, occurring most often during the first 12 months of adoption of a method (18). Myanmar demographic and health survey in 2016 found that 55% of all users had contraceptive discontinuation (19). Due to pregnancy or a desire for a more effective method, the method used was discontinued (20-22). Experiencing side effects is usually the main factor behind discontinuation of

modern methods (19, 23). Contrary to intrauterine contraceptive devices (IUCDs) and implants, some methods such as withdrawal, pills, and injectables have a passive discontinuation (18). The purpose of this research was to investigate the factors that influence married women in Iraqi Kurdistan with regard to their choice of contraceptive method and their decision to stop using one.

## Methods

A descriptive cross-sectional study was carried out in primary healthcare centers in Duhok city, Iraq in the period of December 2021 to April 2022. The study sample were 400 married women aged between 18-45 years, using any kind contraceptive technique. The sample size was estimated from:  $N = (PQZ^2D)/E^2$ , where N = sample size, P = estimated prevalence of unmet need = 0.50, Q = 100 – P, Z = 95% confidence level = 1.96, D = design effect = 2, E = accepted standard error = 0.05 (24). The systematic random sampling technique was used to select the studied sample. The data collection was performed through direct interview. A questionnaire tool was used for data collection, composed of two parts, first part was about sociodemographic, obstetrical details of respondent which contained questions relating to their age, education, income, Body Mass Index (BMI), parity, miscarriage, desire to have children, mode of delivery and breastfeeding. Second (main) part was related to questions about types of contraception currently used,

factors behind choosing the method, reasons behind discontinuation and any side effects experienced by women especially the hormonal ones. Women using withdrawal technique currently, have been asked about specific details to assess their information about the accuracy of technique and any previous failure rate encountered with it. Those who provide inaccurate information or who were unsure of the precise correct method were given instructions on how to use it properly. Association of contraceptive with sociodemographic and obstetrical characteristics of participants, and family planning factors were examined in the Pearson Chi-squared test. The significant level of difference was determined by a p-value of less than 0.05. The statistical calculations were performed in John's Macintosh Project (JMP) Pro 14.3.0. The inclusion criteria were the women who attended primary healthcare centers for any reasons like medical or gynecological problems. Exclusion criteria were pregnant women, attended for vaccination, non-contraceptive users and unwilling to participate. This study received ethical clearance from (Duhok Directorate General of Health, Research Ethics Committee). Written consent was received from all studied participants.

## Results

With a mean age of 31.59, [Table 1](#) displays the participant characteristics (Range 18-45).

**Table 1. Participant's characteristics (demographic and obstetric)**

Women characteristics (n=400)	Frequency Distribution	
	Number	Percentage
<b>Age</b>		
18-34	269	67.25
≥35-45	131	32.75
<b>Level of education</b>		
Illiterate	62	15.50
Primary	106	26.50
Intermediate	72	18.00
High school	83	20.75
Institute	53	13.25
College	23	5.75
Post graduate	1	0.25
<b>Body Mass Index</b>		
<18.5	4	1.00
18.5-24.9	118	29.50
25-29.9	153	38.25
>30	125	31.25

Women characteristics (n=400)	Frequency Distribution	
<b>Sufficient income</b>		
Yes	297	74.25
No	103	25.75
<b>Parity</b>		
1	9	2.25
2	114	28.50
≥3	277	69.25
<b>Miscarriages</b>		
0	244	61.00
1	92	23.00
2	42	10.50
≥3	22	5.50
<b>Caesarean sections</b>		
0	213	53.25
1	77	19.25
≥2	110	27.50
<b>Like to have children</b>		
Yes	204	51.00
No	162	40.50
Undecided	34	8.50
<b>Currently breastfeeding</b>		
Yes	144	36.00
No	256	64.00

Table 2 shows the previous method used by women and the reason behind choosing it. Despite our clients'

beliefs that the withdrawal technique is unreliable, it remains the most popular one ( $P \leq 0.0001$ ).

**Table 2. Reason behind choosing contraceptive methods**

Reason behind choosing	Contraceptive methods used previously									Total
	Withdrawal	OCP	IUCD	MC	IJ	Gel	Implantable	VR	RBF	
Minimal or no side effects	148(94.27)	0(0.00)	0(0.00)	8(5.10)	0(0.00)	1(0.64)	0(0.00)	0(0.00)	0(0.00)	157
Reliable in preventing pregnancy	30(23.62)	45(35.43)	34(26.77)	12(9.45)	3(2.36)	1(0.79)	1(0.79)	0(0.00)	1(0.79)	127
Recommended by doctor	0(0.00)	20(52.63)	10(26.32)	0(0.00)	6(15.79)	1(2.63)	0(0.00)	1(2.63)	0(0.00)	38
Husband preferences	22(88.00)	0(0.00)	2(8.00)	1(4.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	25
Comfortable for me	19(79.17)	2(8.33)	1(4.17)	1(4.17)	1(4.17)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	24
Inexpensive	12(60.00)	2(10.00)	0(0.00)	5(25.00)	0(0.00)	0(0.00)	1(5.00)	0(0.00)	0(0.00)	20
Due to medical problems	8(88.89)	0(0.00)	0(0.00)	1(11.11)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	9
<b>Total</b>	<b>239</b>	<b>69</b>	<b>47</b>	<b>28</b>	<b>10</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>400</b>

P-value  $\leq 0.0001$  \* (statistically significant  $p < 0.05$ )

OCP, oral contraceptive pills; IUCD, intrauterine contraceptive device; MC, male condom; IJ, injection; VR, vaginal ring; RBF, regular breastfeeding

Table 3 demonstrates that achieving pregnancy is the primary motivation for continuing the method. It was obvious that selecting method of contraception was

according to the wish of the clients, since only 7 cases had physician recommendation.

**Table 3. Reason behind contraceptive discontinuation**

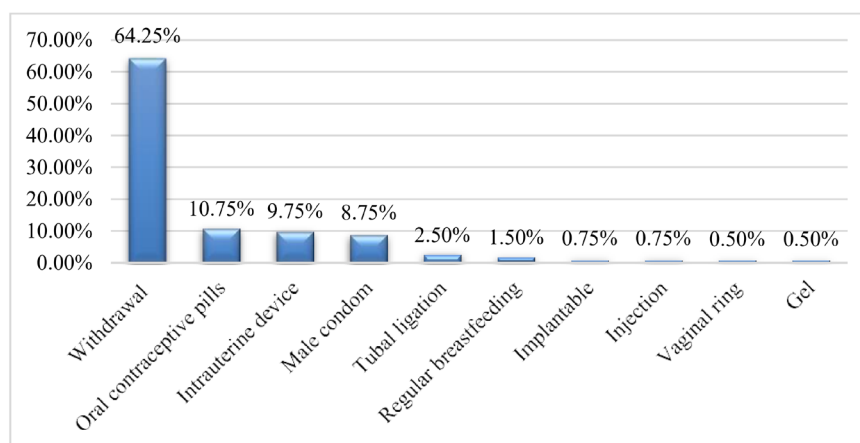
Reasons of discontinuation	Contraceptive methods used previously									Total
	Withdrawal	OCP	IUCD	MC	IJ	Gel	Implantable	VR	RBF	
Desired to become pregnant	177(69.14)	36(14.06)	20(7.81)	18(7.03)	4(1.56)	1(0.39)	0(0.00)	0(0.00)	0(0.00)	256
Failure of the method	56(72.73)	4(5.19)	7(9.09)	7(9.09)	2(2.60)	0(0.00)	0(0.00)	0(0.00)	1(1.30)	77
Experience side effects	0(0.00)	15(35.71)	19(45.24)	1(2.38)	3(7.14)	1(2.38)	2(4.76)	1(2.38)	0(0.00)	42
Desire to switch to another method	3(21.43)	9(64.29)	1(7.14)	0(0.00)	0(0.00)	1(7.14)	0(0.00)	0(0.00)	0(0.00)	14
Physicians' Recommendation	2(28.57)	4(57.14)	0(0.00)	0(0.00)	1(14.29)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	7
Lack of husband's support	0(0.00)	0(0.00)	0(0.00)	2(100.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	2
Premature ovarian failure	1(50.00)	1(50.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	2
<b>Total</b>	<b>239</b>	<b>69</b>	<b>47</b>	<b>28</b>	<b>10</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>400</b>

P-value= <0.0001\* (\*statistically significant p<0.05)

OCP, oral contraceptive pills; IUCD, intrauterine contraceptive device; MC, male condom; IJ, injection; VR, vaginal ring; RBF, regular breastfeeding

The most favorable method of contraception was withdrawal 257 (64.25%), followed by oral contraceptive pills (OCP) 43 (10.75%), intrauterine contraceptive device (IUCD) 39 (9.75%), male condom 35 (8.75%), and 16 (4.00%) used other

methods like (Regular breastfeeding, Injection, Implantable, Gel and Vaginal ring) as shown in Figure 1. Of those who had Tubal ligation 10 (2.50%), seven completed their family and three had complicated delivery (Dehiscence scar).



**Figure 1. Contraceptive methods used by participants currently**

Table 4 demonstrates hormonal methods side effects. Abnormal menstrual flow and breakthrough bleeding were associated with IUCD users as well as vaginal

discharge. Whereas mood change, weight gain and headache as well as nausea were associated with OCP.

**Table 4.** Association between current hormonal method and intrauterine device with undesirable or side effect that noticed by clients.

Categories	Type of contraceptives					P-value
	OCP	IUCD	IJ	Implantable	VR	
<b>Spotting or breakthrough bleeding</b>						
Yes	1(2.33)	6(15.38)	2(66.67)	1(33.33)	1(50.00)	0.0024*
No	42(97.67)	33(84.62)	1(33.33)	2 (66.67)	1(50.00)	
<b>Change in menstrual flow</b>						
Yes	2(4.65)	3(7.69)	0(0.00)	0(0.00)	1(50.00)	0.1462
No	41(95.35)	36(92.31)	3(100.00)	3(100.00)	1(50.00)	
<b>Nausea</b>						
Yes	4(9.30)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0.3337
No	39(90.70)	39(100.00)	3(100.00)	3(100.00)	2(100.00)	
<b>Headache</b>						
Yes	9(20.93)	1(2.56)	0(0.00)	1(33.33)	1(50.00)	0.0423*
No	34(79.07)	38(97.44)	3(100.00)	2(66.67)	1(50.00)	
<b>Weight gain</b>						
Yes	13(30.23)	2(5.13)	1(33.33)	0(0.00)	0(0.00)	0.0341*
No	30(69.77)	37(94.87)	2(66.67)	3(100.00)	2(100.00)	
<b>Mood changes</b>						
Yes	25(58.14)	1(2.56)	0(0.00)	0(0.00)	1(50.00)	<0.0001
No	18(41.86)	38(97.44)	3(100.00)	3(100.00)	1(50.00)	
<b>Recurrent vaginal discharge</b>						
Yes	0(0.00)	12(30.77)	0(0.00)	0(0.00)	1(50.00)	0.0009*
No	43(100.00)	27(69.23)	3(100.00)	3(100.00)	1(50.00)	
<b>Acne</b>						
Yes	2(4.65)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0.6925
No	41(95.35)	39(100.00)	3(100.00)	3(100.00)	2(100.00)	
<b>Total</b>	<b>43</b>	<b>39</b>	<b>3</b>	<b>3</b>	<b>2</b>	

\*Statistically significant,  $P < 0.05$ 

OCP, oral contraceptive pills; IUCD, intrauterine contraceptive device; IJ, injection; VR, vaginal ring

## Discussion

This study attempted to assess the factors influencing the choices and discontinuation of contraceptive methods. The results demonstrated that 70% of participants were overweight and above, which may limit the kind of contraception used and it could be controversial. Keenahan et al., revealed that there is a high risk of IUCD expulsion in women with high BMI (25). Some studies showed that users of hormonal birth control are more likely to gain weight (especially Depo-Provera) compared to non-hormonal one (26, 27). 42% of women were uneducated or illiterate, and most of them were housewives. A study conducted in Latvia demonstrated that one third (29.3%) of their participants had finished primary education, whereas

10.1% did not (28). A study conducted in Senegal by Chin-Quee et al., showed that 70% of their participants didn't complete primary school education (29). All the participants denied smoking, because it could be considered as a bad social habit. In contrary to our results, a prospective cohort study in Australia demonstrated that one in five women were smokers (30). It was clear that the high parity reflected a highly fertile community and their desire for additional pregnancies. Contrary to our results, a study conducted in Nepal reported that only 5% of their participants were multiparous (31). Our client's history of miscarriages was 39%. According to the Lancet, the global miscarriage rate is just 15.3%, so this finding is

considered high (32). Nearly half of our participants delivered by cesarean section (CS) which could be a reason behind seeking a method of contraception. Globally, there are countries with high CS rates like the Dominican Republic (58.1%), Brazil (55.7%), Cyprus (55.3%), Egypt (51.8%) and Turkey (50.8%). Others with low CS are Chad (1.4%), Niger (1.4%), Ethiopia (1.9%), Madagascar (2%) and Cameroon (2.4%) (33). Our clients used more temporal methods because of their strong desire to become pregnant in the near future. A study conducted in Sweden demonstrated that 80.7% of nulliparous wish to have pregnancies, and only 33.5% of parous women still thinking of having more children (34). The idea behind using withdrawal technique was mostly due to having no side effects and being inexpensive, although most of them believed it is the unreliable one. A study conducted in Nigeria found that most of the natural family planning users had fear from side effects of the modern methods (35). A study conducted in Turkey showed that withdrawal (coitus interruptus) doesn't need healthcare providers advice, although most of the participants dislike sexual intercourse interruption in spite of their partners cooperation (36). Breastfeed women (36%) were having no trust in the method of lactational amenorrhea and always were looking for backup techniques whether natural or hormonal. These results were totally opposite to a study conducted in Hungary, in which they believe that breastfeeding is an effective method (37). A cross-sectional study conducted in Egypt showed that 42.5% of their participants practiced breastfeeding, 15.3% of them depended on lactational amenorrhea (38). The most common cause of contraceptive discontinuation was the desire to become pregnant. This finding was in agreement with the study conducted in Turkey, which reported the same reason (20). Withdrawal users had the highest failure rate, which may have been due to their lack of knowledge and experience with the technique. A study conducted in Ghana showed that users of traditional methods (rhythmic and withdrawal) were 34.5%, the overall failure rate was 7.9% which is mostly related to this technique (39). Condom users had inconvenient outcomes, since out of 28 cases, 7 of them got pregnant. Ignorance of accurate application could be blamed. In Canada, the (Contraceptive care for Canadian youth) study demonstrated that 18 with typical use and two with perfect use experienced method failure (40). Even

though OCP has a high efficacy rate, we discovered that almost 5% of users became pregnant. Based on data conducted in Senegal regarding pill users 13.7% reported failure (21). In consistent to our finding discontinuation of modern methods due to side effects, a cross-sectional study in Humera town, northern Ethiopia reported threefold of their participants ceased the method due to experiencing adverse effects (22). Our clients have a panic in practicing IUCD since they believe it carries a lot of side effects. The migrant in Changzhou, China, had replaced IUCD with condom as they believe that it may affect their future fertility (41). A survey in Egypt, showed that discontinuation of IUCD was as a result of experiencing adverse effects (42) Vaginal discharge with changes in menstrual behavior were the main problems in IUCD users. These findings were in agreement with a study conducted in India (43). OCP users reported changes in their mood behavior and weight gain. Whereas a longitudinal study in India showed that their users mostly experienced dizziness, weakness and nausea (44).

## Conclusion

Our study's primary goal was to evaluate women's attitudes and behaviors toward contraception. Additionally, to evaluate how they perceive each one's effectiveness and side effects. Users of withdrawal had a high failure rate, necessitating perhaps more precise training and instruction. Keeping in mind that an unplanned pregnancy may result in numerous complications.

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## Conflict of Interest

The authors declare no conflict of interest.

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