

Factors for Discontinuation of Intra Uterine Device Utilization

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Abstract

Aim of the study was to analyze the factors for discontinuation of IUD utilization. **Descriptive research:** was designed in carrying out this study and **apurposeive sample** of 90 women who had used an IUD and requested its removal were recruited for this study. **Tools:** an interview questionnaire sheet was designed and implemented another tool, assess women attitude toward IUD discontinuation. **Results** of the present study revealed that the desire for conception was the most common reason, with the highest percentage followed by heavy bleeding ,spotting and PID. In addition,other reasons for IUD withdrawal were social problems. **Statistical significant** :relation was found between reasons of discontinuation and women's age, education, number of living children, the previous use of IUD and the duration of the current IUD. **Conclusion:** medical and social problems constitute the main reasons for discontinuation of IUDs. **Recommendation:** Proper counseling are mandatory during the initial and return visits as well as after the removal of the IUD.

Key words: IUD (Intra Uterine Device), utilization, discontinuation.

Introduction

Intrauterine device (IUD) is safe and cost effective reversible method of contraception. It is a flexible device that protects from unexpected pregnancy when inserted into a woman's uterus through the vagina. The intrauterine device (IUD) is the most widely used contraceptive method in the world from a public health viewpoint. Prevalence rates range among countries increased from 2% to 80% of contraceptive users (**Nullahnung, 2014**).

According to World Health Organization ,maternal mortality rate due to unintended pregnancy and unsafe abortions estimated 13%of all maternal deaths, for

overcoming this problem, effective contraception or family planning is estimated to avert nearly 60%of maternal deaths and57%of the child deaths, at the same time reducing annual cost of treating major complications from unsafe abortion that estimated 680 dollar million with decreasing rates of poverty and hunger.

Types of IUDs as Hormonal IUD releases Levonorgestrel, which is a form of the hormone progestin. The hormonal IUD appears to be slightly more effective at preventing pregnancy than the copper IUD. Hormonal IUDs prevent pregnancy for 3 to 5 years, depending on which IUD is used, Copper IUD; The most commonly used IUD is the copper IUD. Copper wire is wound around the stem of the T-shaped IUD. The

copper IUD can stay in place for up to 10 years and is a highly effective form of contraception (WHO 2014).

Many factors leading to discontinuation of IUD method, side-effects were the main reason for early discontinuation, followed by expulsion. Woman's occupational status, husband's occupational status, husband's educational status, experience of side-effects and follow-up practice were associated with early discontinuation of IUD. Menstrual disorder and abnormal vaginal discharge were also associated with early discontinuation. In nulliparous women rates of expulsion and removal for bleeding and/or pain are higher than in parous women (Berry et al, 2003)

Nurse play a vital role in the IUDs availability and use, nurses not only conduct IUD counseling, as well assist with insertion, removal but also, eligibility criteria and complications of IUD use. knowledge of its benefits prevalence of rumors and myths should be readily available for supervision and counseling (Rivera et al., 2006).

Nurse practice guidelines provide accurate information, counsel about side effects an effective way to increase continuation rates, counsel about bleeding and other side effects should be tailored to personal and contraceptive experiences of women, partners may play an important role in how well some women tolerate contraceptive-related bleeding (Hong et al, 2006).

Justification of Study:

IUD is the most widely used modern contraceptive method available in most of the countries Thus, it is imperative to investigate the components of contraceptive dynamics such as contraceptive discontinuation, failure and switching. All these may potentially increase contraceptive continuation rates could be raised substantially by eliminating discontinuations

due to non-method and methods related reasons, nurses role in this problem includes proper selection of an IUD candidate to avoid immediate and remote problems that cause discontinuation and proper counseling is essential during initial and return visits (WHO, 2014), women discontinue using IUD due to bleeding constitutes (61.2%), (44.4%) due to inflammation in the genital tract, also half of women discontinue due to desire for pregnancy.

Aim of the study:

To analyze the factors associated with discontinuation of IUD utilization.

Research question:

What are factors for discontinuation of IUD utilization?

Subjects and Methods

This study aimed to analyze the factors which associated with IUD discontinuation, at Awlad sakr, Zagazig general hospital.

This was achieved through: identifying factors associated with discontinuation of IUD. The methodology followed for achieving the aim which will be portrayed under four main designs as follows:

- 1-Technical design.
- 2-Operational design.
- 3-Administrative design.
- 4-Statistical design.

Technical design:

The Technical design used for the study involved research design, setting of the study, subjects as well as tools for data collection.

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Research design:

Descriptive Study was used.

Setting:

The study was conducted in Zagazig, Awlad Saqr general hospital ,during the period from the first of November 2017 to the end of April 2018.

Sample size:

A total purposive sample of 90 women were attended Family planning out patient clinics throughout a period of 5 months at the time of data collection and according to the following **sample criteria**:

- 1-All women using IUD's
- 2-Has different ages, education and parity
- 3-Has normal vaginal delivery
- 4-In postpartum period, before hospital discharge

Structured interviewing sheet was designed, validated and utilized by the investigator to collect data about: Demographic characteristics, obstetrical history, data related to the use of IUD and reasons for discontinuation both medical and non-medical reasons as well as women intention for selection of another method for contraception.

Sample type: purposive sample

Tools of data collection:

The following tools for data collection will be used:

Tool I: A structured interviewing questionnaire sheet: was designed and utilized by the researcher tools to collect the following data and this tool included 3 parts:

Part1: Socio demographic data e.g. age, place of residence, occupation, education level, socio economic level, occupation and marriage duration.

Part2: Obstetrical history; which include; the number of gravida, para, abortions, stillbirths, neonatal deaths and number of living children.

Part3: Data related to the use of IUD, time of insertion, duration of its usage, side effects encountered and follow up care provided.

Part4: This part concerned with knowledge assessment on reasons for discontinuation of IUD utilization.

Level of knowledge scoring system:

The scores ranged between 1, 2, or 3 assigned to each answer representing don't know, incorrect and correct. So total level of knowledge scores ranged from 0 to 90 ; less than 60 (unsatisfactory) evaluated don't know, score from 60 to 70 (satisfactory) as incorrect, and score more than 70 (good) as correct.

❖ Scoring system for knowledge

The questionnaire sheet included items and each item was given one point for tight answer, these items represented 14 marks scores.

Tool II: Comprised of questions regarding women Practice toward utilization IUD.

❖ **Scoring System for Practice** includes 2 levels: 2 points for continue and 1 for discontinue and choose another method. Total level of Practice scores ranged from 0 to 20 ; less than 60 evaluated as unsatisfactory, and more than 60 % evaluated as satisfactory.

Tool IV: Comprised of questions regarding women attitude toward discontinuation of IUD utilization.

❖ scoring system for Attitude:

The scores range between 1, 2, or 3 was assigned to each answer representing don't know, incorrect and correct. So, total

level of attitude scores ranged from 0 to 90 ; less than 60 (unsatisfactory) will be evaluated as don't know, score from 60 to 70 (satisfactory) as incorrect, and score more than 70 (good) as correct.

Operational designs:

Preparatory phase:

A review of current and past local and international related literature in the various aspects of the problem using books, periodicals articles and magazines was done to analyze factors affecting on discontinuation of IUD utilization .

Pilot study

A pilot study was conducted on 10% from the sample to evaluate clarity of the study tools, were included in the study sample.

Field work:

An official approval was obtained from pertinent authorities in the selected setting. The data collected by the researcher using the previous tools, the researcher interviewed every woman individually to collect the necessary data. An official

permission was obtained from pertinent authorities.

Ethical considerations:

Consent was obtained from the scientific research ethical committee in Faculty of Nursing at Ain Shams University before starting the study. Approval of women obtained orally after explaining the purpose of the study. The study methodology is safe for the women in addition, the researcher assured maintaining a confidentiality of the subject data and every woman has a right to withdraw at any time of study, women were considered as informed consent and professional help was provided whenever needed and answer any question of women.

Administrative Design:

Consent was obtained from the scientific research ethical committee in Faculty of Nursing at Ain Shams University before starting the study. An official approval was obtained from pertinent authorities in the selected maternal child health centers at Zagazig city. The aim of study was explained to every woman before participation, which was voluntary.

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Result

Table (1): Distribution of studied women according to their socio-demographic characteristics (n=90).

Items	No.	%
Age (years)		
≤20	9	10.00
>20-30	72	80.00
>30	9	10.00
Mean±SD	27.68±4.31	
Residence		
Rural	82	91.11
Urban	8	8.89
Education level		
Illiterate	8	8.89
Read & Write	11	12.22
Primary	14	15.56
Secondary	46	51.11
University	11	12.22
Marital status		
Married	87	96.67
Widowed	3	3.33

Table (1): shows that the distribution of the studied women according to their socio-demographic characteristics. The majority (80%) of studied sample were aged from >20-30 of the interviewed sample, also majority of them (91.11%) live in rural area, education level found that nearly half of the sample (51.11%) were educated at secondary level, while marital status found that majority of them (96.67%) were married.

Table (2): Distribution of studied women according to their obstetrical history (n=90).

Items	No.	%
Gravidity		
Para 1	17	18.9
Para 2-3	53	58.9
Para ≥4	20	22.2
Mean±SD	2.70±1.31	
Parity		
Para 1	20	22.2
Para 2-3	57	63.3
Para ≥4	13	14.4
Mean±SD	2.38±1.08	
No of living children		
Children 1	21	23.3
Children 2-3	55	61.1
Children ≥4	14	15.6
Mean±SD	2.38±1.09	
Abortion		
Yes	23	25.56
No	67	74.44

Table (2): illustrates that the past obstetric history of the studied women regarding gravidity Para 2-3 (58.9%), Parity Para 2-3 (63.3%), no of living children 2-3 (61.1%) and abortion (25.56%).

Table (3): Distribution of studied women according to the present utilization of IUD (n=90).

Items	No.	%
Why did you use it?		
Cheap price	35	38.9
Not require remembering	47	52.2
Not contain hormones	7	7.8
Others	1	1.1
Type of used IUD		
Copper	68	75.6
I don't know	3	3.3
Platin	1	1.1
Multi load	18	20
Have you taken any follow-up instructions?		
Yes	63	70.0
No	27	30.0
In case of yes: (n=63)		
Where did you go for the follow up?		
Health center	47/63	74.6
Private clinic	16/63	25.4
Did the following up continued? (N=63)		
Yes	21/63	33.3
No	42/63	66.7

Table (3): shows the reasons of IUD utilization, cheap price (38.9%), not require remembering (52.2%), not contain hormones (7.8%) and others (1.1%), also type of used IUD copper (75.6%), I don't know (3.3%), platin (1.1%) and multi load (20%), while have you taken any follow-up instructions (70%).

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Table (4): Relation between women's no. of living children and reasons for discontinuation of IUD (regarding social and medical causes) (n=90).

Reasons of discontinuation of IUD	No of living children						Chi-square test	
	Children 1		Children 2-3		Children ≥4		x ²	P-value
	No.	%	No.	%	No.	%		
Social causes								
The desire for pregnancy	9	42.9%	26	47.3%	6	42.9%	3.260	0.777
Will of the husband	10	47.6%	19	34.5%	4	28.6%		
Family beliefs	2	9.5%	8	14.5%	3	21.4%		
Other problems remember	0	0.0%	2	3.6%	1	7.1%		
Medical reasons								
Diabetes Mellitus	0	0.0%	4	19.0%	28	51.2%	5.012	0.040
Anemia	13	90.0%	13	61.9%	25	46.3%		
Others remember	1	10.0%	4	19.0%	2	2.5%		
Did you choose another method if you do not want to get pregnant?								
No	24	75.0%	25	86.2%	26	75.0%	0.991	0.609
Yes	4	25.0%	4	13.8%	7	25.0%		
What type of instrument did you use?								
Pills	2	22.2%	11	44.0%	40	66.7%	3.002	0.809
Injection	1	11.1%	3	12.0%	0	0.0%		
Condom	6	66.7%	11	44.0%	16	33.3%		

Table (4): shows statistically significant relation between women's no. of living children and reasons for discontinuation of IUD, regarding social and medical causes, (47.3%) of studied women have desire for pregnancy while, (47.6%) due to husband will and (90.0%) have medical reasons as anemia, (66.7%) choose contraceptive method as pills and condom.

Table (5): Relation between women’s duration of IUD and reasons for discontinuation of IUD (n=90).

Reasons of discontinuation of IUD	Duration of IUD						Chi-square test	
	<2y (N=40)		>2-4y (N=32)		>4y (N=18)		x2	p-value
	No.	%	No.	%	No.	%		
Bleeding								
No bleeding	20	50.0%	20	62.5%	11	61.1%	8.140	0.046
Days after each session	18	45.0%	10	31.3%	3	16.7%		
Throughout the month	2	5.0%	2	6.3%	4	22.2%		
Irregular menstruation								
Regularly	26	65.0%	13	40.6%	9	50.0%	4.909	0.297
Comes more than once a month	11	27.5%	13	40.6%	7	38.9%		
Come at intervals	3	7.5%	6	18.8%	2	11.1%		
Blood punctuation								
No punctuation	27	67.5%	22	68.8%	14	77.8%	1.439	0.837
Dotted throughout the month	10	25.0%	9	28.1%	3	16.7%		
Post-cycle punctuation	3	7.5%	1	3.1%	1	5.6%		
Inflammation in the genital tract								
No infections	31	77.5%	22	68.8%	9	50.0%	6.315	0.028
Inflammation and pain	6	15.0%	9	28.1%	8	44.4%		
Inflammation and No pain	3	7.5%	1	3.1%	1	5.6%		
Severe cramps in the abdomen								
No contractions	33	82.5%	27	84.4%	9	50.0%	17.724	<0.001
Contractions and pain	6	15.0%	5	15.6%	4	22.2%		
Contractions without pain	1	2.5%	0	0.0%	5	27.8%		
Severe pain in the back								
No	14	35.0%	11	34.4%	8	44.4%	3.493	0.745
Severe	11	27.5%	9	28.1%	5	27.8%		
Moderate	9	22.5%	8	25.0%	1	5.6%		
Mild	6	15.0%	4	12.5%	4	22.2%		
Was the pain occurring under certain conditions								
No	3	7.5%	1	3.1%	1	5.6%	1.408	0.843
Severe	24	60.0%	22	68.8%	10	55.6%		
Moderate	13	32.5%	9	28.1%	7	38.9%		
The fall of the coil (did I feel the existence of the wick)								
Yes	5	12.5%	1	3.1%	3	16.7%	5.847	0.025
No	35	87.5%	31	96.9%	15	83.3%		

Table (5): shows statistically significant relation between women’s duration of IUD and reasons for discontinuation of IUD (n=90) according to Bleeding >4 days (61.2%), Irregular menstruation (50.0%), Blood punctuation (77.8%), Inflammation in the genital tract (44.4%), Severe cramps in the abdomen(22.2%), Severe pain in the back (27.8%), The fall of the coil (did I feel the existence of the wick) (16.7%).

Discussion

The aim of the present study was to analyze the factors which associated with discontinuation of IUD utilization; this aim of the present study was significantly achieved through the research question "What are reasons for discontinuation of IUD?" This was answered through the present study research findings.

Concerning general characteristics of the study sample, the results showed that, almost two thirds of the women who asked for the removal of their IUD were 30 years and more with mean age 30.8±7.8. This not in line with **Salhan (2014)** in their study, that was conducted in India in 2012, they reported that discontinuation was higher among younger acceptors (24 or less) as compared to those who had accepted the device at later ages (30 years and above).

This finding was in accordance with **leite and Gupta,(2015)** who found that ,Adolescents have higher rates of discontinuation than older women, but the obstacles to consistent use were poorly understood and often context-specific. In Tunisia, Egypt and Ecuador, about 20% of all hormonal method users stopped for this reason by the end of the first year and about 30% did so within two years.

O'fallon et al., (2011) also understand women's family planning choices, investigate detailed information on the dynamics of IUD use in developing countries, using data from the most recent Demographic and Health Surveys (DHSs). More specifically, it provides the socio-demographic profile of IUD users, continuation of use and reasons for the discontinuation of use. In addition, it provides information on method-switching following discontinuation for method-related reasons.

Moreover, women who attained high education level, living in urban areas

,housewives were more likely to have higher discontinuation rates than women who didn't completed high school level, were from rural areas and were working. These findings congruent those reported by **Khademloo et al., (2014)**. This is expected since this socio-demographic characteristics are typical of women who promptly seek medical advice and may resort to ask for IUD removal whenever there is any medical problem. Furthermore, cessation of IUD use requires deliberate decision to have the device removed, and this is compatible with the present study sample.

According to **Ngo and pernito (2010)** IUD accepted as one of the best available effective methods of contraception, avoid the health risks of unwanted pregnancy and have provided for the spacing of pregnancies. This has contributed to improvements in infant and child survival. Concerning the current discontinuation reasons of IUD, the present study findings indicated that the desire for conception was at the top of the list, with the highest percentage of the reasons reaching up 33.3%). This was followed by heavy bleeding and spotting (30.6%). Women complained that they can't pray, have sexual intercourse, perform household tasks or participate in community activities during periods of bleeding.

The above figures are very close to that reported by **Alinany (2007)** study on current state of Intrauterine contraceptive devices in Egypt. In addition, **Farajzadegan (2014) study on Emotional Adjustment Status predictor of the IUD Survival** founded that the desire for conception is the highest percentage (38%) of general factors for discontinuing IUD using in Iran. On the other hand, **Tolley et al., (2014) study on the impact of menstrual side effects on contraceptive discontinuation** reported that bleeding is the commonest reason for discontinuation of IUD. In the same line **Jenabi et al., (2014) and Khademloo et al., (2015)** reported that the highest removal

rate was for bleeding. Other major reasons for removal were pregnancy and expulsion respectively.

On the other hand, social reasons for discontinuation of the IUD was higher among women who were aged > 35 (41.8%), compared to those were aged < 25 (5.1%). This result is in disagreement with **Mardi et al (2014)**. This point to seemingly important disparities in the quality of family planning services across various regions of the world and the different needs of women of various age groups.

Conclusion

Based on the result of the present study, it can be concluded that :

The desire for conception was the most common reason for IUD discontinuation. Only one third of the sample who had the intention to use another method for contraception.

The second reason for IUD withdrawal was bleeding and spotting. Other medical and social problems constitute asizable portion of reasons for IUD discontinuation.

A statistical significant relation was found between women's socio demographic characteristics age, education and number of living children, previous use of the IUD, the duration of current IUD and the reasons for IUD discontinuation.

Recommendation:

Based on the findings of the study and conclusion the following recommendations were suggested: Proper selection of an IUD candidate together with meticulous assessment and careful insertion of the IUD to avoid immediate and remote problems that cause discontinuation. Proper counseling is essential during initial and return visits. Further research: investigate women

perception and satisfaction regarding qualifying family planning health services.

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