

Trends and Barriers in the Use of Hormonal Contraception Among Women In Mansoura-Egypt

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Abstract: The hormonal contraceptives are highly effective long acting reversible contraception. Providing better counseling would assist the user in coping with side effects and decreases unnecessary barriers that lead to discontinuation of these methods. **The aim** of the study was to determine the trends and barriers in the use of hormonal contraception among women in Mansoura-Egypt. **SUBJES and METHODS:** A descriptive, cross-sectional exploratory study design was used in this study. It was carried between February and July 2017. A statistical sample of 166 women attending the family planning clinic at Mansoura University Hospital –Egypt and were users of HCM were involved in this study. Questionnaire schedule include data about; client characteristics, the HCM they ever used; side-effects and barriers lead to discontinuation of the method. **RESULTS:** the injectable was the most widely used HCM and implants were used by only 3.0% of the sample. The majority recognized the benefits of HCM, but do not adhere to the system of follow up unless complications aroused or they need to switch to other method. The majority was not able to cope with side-effect and three quarters experience a delay in selecting another method for contraception with the result that incidence of unintended pregnancy reached about one third of the sample. Cognitive and method failure were significantly the most common barriers reported by women using contraceptive pills. **Conclusion:** the injectable was the most widely used HCM and implants were used by only 3.0% of the sample. Cognitive and method failure were significantly the most common barriers reported. **Recommendations:** Providing better counseling would assist the user in coping with side effects and decreases barriers that lead to unnecessary discontinuation of contraception methods.

Keywords: Family planning, hormonal contraceptive methods, contraceptive barriers

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I. Introduction

A woman's ability to space and/or limit her pregnancies has a direct impact on her health and well-being as well as on the outcome of each pregnancy. The family Planning (FP) program addressed under Millennium Development Goal (MDGs) is targeted to achieve desired family size, reduce total fertility, and slow population growth [1]. Hormonal contraceptives methods (HCM) such as the pill, injectable, implants, transdermal patches, vaginal rings offer effective pregnancy prevention with perfect use and have good and well-defined overall safety and tolerability profiles [2].

Many newer hormonal contraceptives also offer important non-contraceptive health benefits, including reduced risks of ovarian, endometrial and colorectal cancers, benign breast disease and menstrual cycle disorders. Thus, a wide variety of estrogen/progestin and progestin-only formulations and alternative delivery methods have been developed in order to meet the specific needs of each woman [3& 4].

Most HCM have similar safety, efficacy, and contraindication profiles, being more suitable than others for different women. Therefore, healthprovider must tailor their contraceptive recommendation to the individual [5]. Meanwhile, consideration should also be given to the woman's age, risk of STD, parity, whether she is breastfeeding, smoking status, body mass index, associated medications, co-morbidities, and risk factors for chronic or neoplastic diseases. Equally important are women's previous experiences, their compliance, side effects and personal preferences, expectations and concerns regarding their contraceptive choice. As well as time frame for return of fertility on discontinuation, bleeding patterns, partner, social, economic and cultural pressures [6].

More than 100 million women in the less-developed countries, about 17 % of all married women, would prefer to avoid pregnancy, but are not using any form of family planning methods. Various estimates from the US indicate that approximately 50% of pregnancies are unintended and are mainly a consequence of incorrect or inconsistent contraceptive use [7]. Women whose pregnancy is unintended are more likely to engage in behaviors during gestation that jeopardize their health and that of their baby, and to have an adverse

birth outcome [8]. It can negatively affect a range of developmental parameters during the child's early years, which may persist into adulthood [9]. Choosing the best HC agent for each woman's needs, based on an individualized selection process, will promote correct and long-term use; choosing a less appropriate agent is likely to result in poor contraceptive practice and increase the risk of an unplanned pregnancy.

Moreover, various factors are known to influence a woman's decision when choosing HCM, exploring these factors and reducing the barriers to HC use could highlight the importance of looking beyond physical access to examining barriers that arise from psychosocial, administrative, cognitive and cultural factors as well as physical barriers and barriers related to the method itself [10, 11]. However scarce data are available on woman's motivations when preferring one method to the other at the time when contraception is started as well as the barriers confronting her. Therefore, studying this issue would hopefully allow for further improve contraceptive counseling provided by the nurse midwife and bridge the gap between knowledge and usage of contraception.

Aim Of The Study

This study aims to determine the trends and barriers in the use of hormonal contraception among women in Mansoura-Egypt

II. Subjects And Methods

A descriptive, cross-sectional exploratory study design was used in this study. It was carried between February and July 2017. Women eligible for this study were between 18 and 44 years of age and were current users of hormonal method of contraception (including pills, implants, injections, patches, vaginal rings) for pregnancy prevention. Exclusion criteria were: women who stopped using HCM because their husbands were working abroad, women who had a hysterectomy and women who were pregnant.

The following equation was used to calculate the sample size with precision/absolute error of 5% and type 1: Sample size = $[(Z_{1-\alpha/2})^2 \cdot P(1-P)]/d^2$. Where, $Z_{1-\alpha/2}$ is the standard normal variate, at 5% type 1 error ($p < 0.05$) it is 1.96. P = the expected proportion in population based on previous studies. d = absolute error or precision. So, Sample size = $[(1.96)^2 \cdot (0.123)(1-0.123)]/(0.05)^2 = 165.8$ Based on the above formula, the sample size required for the study is 166 women. The study was conducted in family planning clinic at Mansoura University Hospital. Women matching inclusion criteria were recruited purposively until the total target sample size was reached.

A structured interview questionnaire was used to collect data from women who accepted to participate in the study. The questionnaire included data about: (1) Socio-demographic data (age, marital state, educational level and occupation), (2) Obstetric history (gravidity, parity, number of living children), (3) Knowledge of the hormonal contraceptive method (4) the ever use of hormonal contraceptive method, (7) barriers/reasons for stopping or not using the contraceptive method. It has questions on 7 types of barrier:

- **Demographic;** woman desire to have children, HC should be used only for older women who do not want children, had long intervals between intercourse and difficulty of becoming pregnant.
- **Cultural;** have bad misconceptions about HCM e.g injection can cause infertility, pills can cause cancer/child-bearing is more comfortable at younger age. Woman is reluctant to be investigated by a male physician or to discuss sexual behavior.
- **medical barriers** such as requiring women to return more often than necessary for check-ups, requiring spouse's consent as a prerequisite for prescribing contraception.
- **Cognitive;** did not hear or see any advertisement about HC in last 6, months/did not participate in an educational session about FP during last 6 months.
- **Method failure;** woman failed to use the method because of the presence of side-effects or complications.
- **Physical or Psychosocial barriers;** woman was engaged in activities throughout the day, the distance to clinic is long or refusal of the husband.
- **Administrative barriers;** such as poor quality of service, previous bad experience with the facility, service provider's attitude, lack of privacy during examinations, shortage of stock, etc.

Woman was given the chance to select any number of barriers. Response was recorded as agree or disagrees. Agree scored 1 and represents a barrier: the higher the score the more barriers there are. Disagree scored 0 and represents no barrier.

Ethical considerations:

Official permission was obtained by submission of an official letter from the Faculty of Nursing to the responsible authorities of the study setting to obtain the permission for data collection. The study was approved by the ethics committee of Mansoura Faculty of Nursing. Questionnaire was anonymous, did not contain any critical questions, and confidentiality of the data were maintained.

Pilot study:

After the tool had been designed, it was tested for its validity and reliability. Then the pilot study was carried out on 10% of the sample in the study setting that were excluded from the study sample. The purpose of the pilot study was to test the applicability and clarify the feasibility of the study tools and to estimate the time needed to complete the tools. It also helped to find out any obstacles and problems that might interfere with data collection, based on findings of the pilot study, certain modification of the tools were done. Following this pilot study, the process of data collection was performed.

III. Results

Table (1): Distribution of the Studied Women According to their Socio- Demographic Characteristics (n=166).

Socio-demographic characteristics	No.	%
Age of the woman		
▪ ≤30	73	44.0
▪ 30-40	66	39.7
▪ ≥40	27	16.3
Mean ± SD.	32.3 ±7.6	
Level of education		
▪ Illiterate, read & write	9	5.4
▪ Primary education	45	27.1
▪ Secondary education	96	57.8
▪ University education and above	16	9.7
Occupation		
▪ Housewife	131	79.0
▪ Working	35	21.0
Parity		
▪ Primipara	36	21.7
▪ Multipara	130	78.3
Number of living children		
▪ Less than 3	71	42.8
▪ 3 and more	95	57.2

The characteristics of women in the study sample (Table 1) reveals that the maximum number of women was in the age group of ≤30 years (44.0%) with a mean age of 32.3 ±7.6 years. In terms of education 57.8 % had secondary level of education and the majority was more likely to be housewives (79.0%). Moreover, more than half (57.2%) of them had 3 living children and more.

Table (2): Distribution of the Studied Women According to menstrual and Medical History (n=1663)

Variables	No.	%
History of menstrual problems		
Present MP		
	54	
▪ Oligomenorrhea “cycle repeated once every >35 days but <3 months”	1	1.9
▪ Metrorrhagia, bleeding at irregular intervals i.e inter-menstrual bleeding	25	46.3
▪ Dysmenorrhea, painful menstruation	2	3.7
▪ PMS one or more of the following symptoms starting 10 days before menstruation and disappearing at the start of period: rapid mood changes, depression, painful or tender breasts and bloating or swelling of the abdomen.	26	48.1
History of medical problems or side effects		
Absent (n= 101)		
Present: (n = 65)		
▪ Being aware to cope with side effects encountered	21	32.3
▪ Medical consultation for selected HCM	33	50.8
▪ Follow up and gynecologist visit in preceding 12 months	11	16.9

Table 2 shows that the most common menstrual problems were inter-menstrual bleeding and PMS (46.3% and 48.1% respectively). Meanwhile, less than one third (32.3%) were able to cope with the side effect encountered.

Almost half of them (50.8%) received medical consultation for hormonal contraception and 16.9% had follow up and gynecologist visit in the preceding 12 months.

Table3. Distribution of the Studied Women According to their use of HCM (n=166)

Variables	No.	%
Types of hormonal method use		
▪ Combined oral contraception pills “COCs”	51	30.7
▪ Contraceptive implant	5	3.0
▪ Progesterone only contraception	21	12.7
▪ Injectable	89	53.6
▪ Vaginal ring	0	00
▪ Patch	0	00
Why did she choose this method		
▪ Highly effective	6	3.6
▪ Rapid return to infertility	51	30.7
▪ Use is controlled by the women	44	26.5
▪ Not affecting sexual intercourse	15	9.1
▪ Safer than other contraceptive method	5	3.0
▪ Easy, cheap, available	30	18.1
▪ Has no effect on lactation	15	9.0

Table 3 demonstrates the current HCM used by the studied women. The most common method was injectable (53.7%), followed by COCs (30.7%) and progesterone only pills (12.7%). However contraceptive implants was used by only 3.0%. Women preferred these methods because of their rapid return to infertility and their use is controlled by them (30.7% and 26.5% respectively). Only 18.1% answered that these methods are cheap, easy to use and available.

Table 4. The Relation Between Utilization of HCM and Side effects or Complications Encountered

Variables	HCM						Chi square test	
	COCs (n=72)		Injectable (n=89)		Implants (n=5)		X ²	p
	No.	%	No.	%	No.	%		
Side effects and complications								
Yes: (n = 23)								
Dizziness, headache and Breast engorgement	3	13.0	4	17.4	8	34.8	13.905	0.031
Nausea, vomiting,	4	17.4	4	17.4	3	13.0		
Decrease in sexual desire	0	0.0	0	0.0	4	17.4		
Weight gain and blurring of vision								
	16	69.6	15	65.2	8	34.8		
How to cope with these side effects								
No: (n = 19)								
yes:	14	73.7	16	84.2	18	94.7	3.167	0.205
	5	26.3	3	15.8	1	5.3		
Client compliance								
Missed one pill	113	68.0	.....	.....	.....	.....	.....	.....
Missed 2-3 pills	31	18.7	.....	.....	.....	.....	.....	.....
Accidentally taken	22	13.3	.....	.....	.....	.....	.....	.....

Table 4 reveals that 13.9% and 11.8% of the studied women reported various side effects and complications of HCM. Of those the most common were; nausea, vomiting, weight gain and breast engorgement but with no statistical significant differences between them. Most of them did not know how to cope with these

side effects. Concerning women compliance to the use of contraceptive pills the majority (68.0%) of women missed one pill, 18.7% missed 2-3 pills and 13.3% used it accidentally.

Table 5. The Relation Between Utilization of HCM and the Barriers Encountered

Variables	HCM						Chi square test	
	COCs (n=72)		Injectable (89)		Implants (n=5)		X ²	p
	No.	%	No.	%	No.	%		
Duration of using the method								
≤ 1 year	4	7.8	25	28.0	0	0.0	44.491	<0.001
1-	10	19.6	30	33.7	0	0.0		
2-	30	58.9	11	12.5	5	100		
4+	7	13.7	23	25.8	0	0.0		
Discontinuation of the method								
No	9	66.3	59	17.6	0	0.0	35.380	<0.001
Yes	42	33.7	30	82.4	5	100		
Reasons for discontinuation (Barriers encountered)								
-Cognitive	8	15.7	1	1.1	0	0.0	44.889	<0.001
-method failure	15	29.4	10	11.2	0	0.0		
-medical factor	20	39.2	37	41.6	0	0.0		
-reproductive	5	9.8	21	23.6	5	100		
-administrative	3	5.9	20	22.5	0	0.0		

- Total is not exclusive

Table 5 reveals that injectable and implants were more likely to be used for a longer period (4+ years), and women were less likely to discontinue its use, compared to those using contraceptive pills, differences observed are statistically significant (p<0.001). Moreover, cognitive and method failure were significantly the most common barriers reported by women using contraceptive pills (p<0.001).

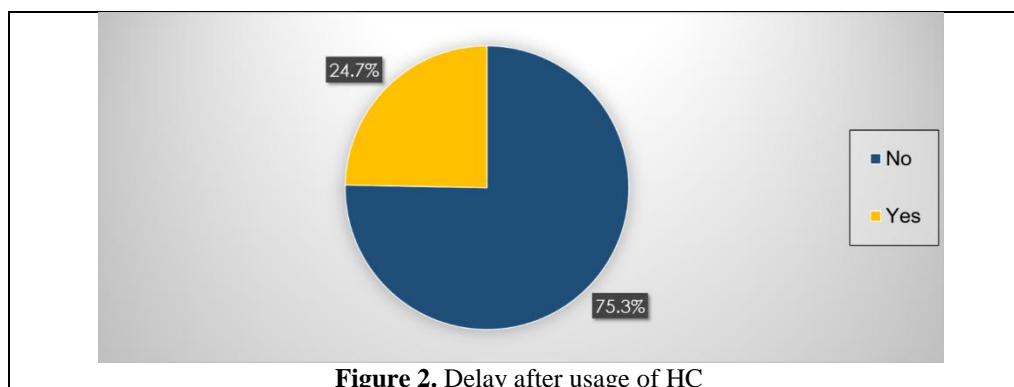


Figure 2. Delay after usage of HC

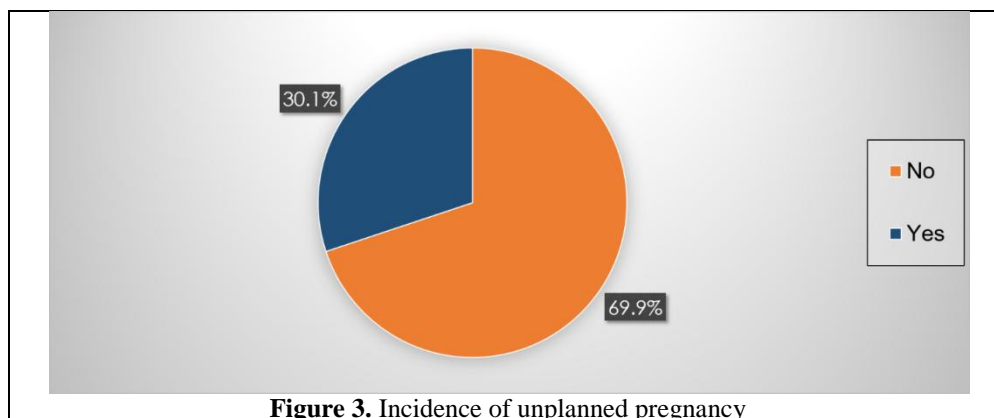


Figure 3. Incidence of unplanned pregnancy

Figure 2 and 3 shows that 72.3% of women experience a delay in using other contraceptive method after discontinuation of the current HCM with the result that the incidence of unintended pregnancy reached 30.1%

IV. Discussion

The population in Egypt is currently growing at a rate of 2.6 million individuals per year and overpopulation continues to risk the country's resources and commitment to achieve sustainable development in accordance with Egypt's development Vision 2030 [12]. The problem of unintended pregnancies in Egypt slow the progress toward achieving the Sustainable Development Goals and other health and socioeconomic objectives, and negatively affect maternal and child health at the national level. It has been estimated that if unwanted births could be eliminated, the total fertility rate in Egypt would decline by 20 percent (Aziz et al., 2017). Thus, the ministry of health is planning to raise awareness of family planning methods particularly long acting reversible contraception methods (LARC), with special focus on women in rural areas.

The hormonal contraceptives, are highly effective LARC, safe, not user-dependent and have very low failure rates (less than 1%), which rival those with sterilization [13]. Counseling is a key component of family planning services. The time dedicated to talking with clients can help ensure correct use of and satisfaction with a chosen contraceptive method [14, 15]. Through counseling the maternity nurse could successfully dispel the myths associated with hormonal contraception, reduce the barriers that lead to discontinuation of the method and reassured the clients about the safety of the HC.

Various factors are known to influence a woman's decision when choosing a HCM method, but scarce data are available on women's motivations when preferring one method to the other at the time when contraception is started and the barriers that may influence the continuation of these methods. Therefore the aim of the study was to determine the trends and barriers in the use of hormonal contraception among women in Mansoura-Egypt.

According to the present study results the injectable was the most widely used HCM. Compared to information from the latest EDHS similar results were shown, where IUD and injectable were most popular among Fayoum married women (28.4 percent and 14.9 percent respectively) [16]. However, in the present study the implant came the third among participants with a very low percentage. In Jordan, the IUD (21%), followed by the pill and male condom (8% each) were the most commonly used methods [17]. While in Indonesia injectable was the most commonly used method, followed by the pill (32 percent and 14 percent, respectively) [18].

Recently, Nageh et al., (2018) in Porsaid-Egypt reported that HCMs were the most common HCM (56.5%) used among studied women, followed by IUCD method. Of those combined oral contraceptives methods (44.3%) were the most widely used HCM. The implants was used by 33 (9.5%) women, this figure is higher than that reported among women in the present result (3.0%). The difference between the above mentioned result and the present one could be related to the availability and acceptability of implants in various family planning centers. It also, indicates the importance of investigating the reasons behind the lowest utilization of this type of HCM.

The current study findings revealed a higher tendency to recognize the benefits of HCM among the studied women. However, most of them used the method on their own without the advice from the physician and do not adhere to the system of follow up unless complications aroused or they need to switch to other method of contraception.

Family planning clients should be counseled about the side effects of the HCM used, what to do if they experience side effects, and told about other available FPM. The Department of Statistics and ICF International in Jordan found that seven in ten women were informed about possible side effects of their method, 61% were informed about what to do if they experience side effects, and 75% were informed about

other available family planning methods [19]. Such figure is very high in comparison with the present study not only that but also more than two thirds of the sample do not compile to take the COCs regularly. Similarly, **Kotb et al., [20]** found that a substantial proportion of women in Cairo have unmet contraceptive need and suggested that efficient counseling of women about contraception may help reduce this high prevalence. This correspond well with the finding of the current study which revealed that almost three quarters of women experience a delay in selecting another method for contraception with the result that incidence of unintended pregnancy reached about one third of the sample.

The present study explored the various types of reported barriers for the discontinued group. Cognitive and method failure barriers were the main barriers that lead to discontinuation of HCM. Studies in Nepal and in Jordan, revealed that administrative barriers was the most common which included problems in the health-care delivery system and perception of health-care providers, especially their FP counseling skills [21,22]. Moreover, the study in Pakistan found that half of all urban poor women identified psychosocial reasons as the primary barrier to using family planning services. Administrative barriers were the second most commonly reported barrier, with few women reporting cognitive and physical barriers to FP service use [23].

This could be attributed to subjective perceptions about the barriers that varies from one person to another according to cultural and personal characteristics and the quality of service provided. However, only 8% of discontinued Indonesian women related it to the method [24] and barriers related to the method were cited by 35.8% of the women who had discontinued (**Eltomy, 2013**). This could be due to their past experience of failure of the method or the presence of side-effects. This is supported by **Aktun et al., (2005)** who reported that among women using contraception, the majority of unintended pregnancies occurred as a result of inconsistent or incorrect use of the method [25].

V. Conclusion

Injectable were the most widely used methods of HCM, and the implants was the least one. Injectable and implants were more likely to be used for a longer period (4+ years), and women were less likely to discontinue its use, compared to those using contraceptive pills, differences observed are statistically significant ($p < 0.001$). Moreover, cognitive and method failure were significantly the most common barriers reported by women using contraceptive pills ($p < 0.001$).

VI. Recommendations

Providing better counseling would assist the user in coping with side effects and decreases unnecessary discontinuation of contraception methods. Guidelines were not only developed to assist family planning providers in educating clients, but also to determine and provide the best method for clients' needs and to instruct the clients in the use of method and follow-up. The MOH should revive and support family planning education at both household and community level that targets the woman and her partner. This could be undertaken through print and mass media, fact sheet, market places as well as newsletters and posters. Further research is recommended to find out the availability and accessibility of various HCM in rural areas of Mansoura city.

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