



Comparison of Knowledge of Oral Contraceptive Pills User Women, Who Received their Medication from Pharmacies or Health Care Centers

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ABSTRACT

Background: Oral Contraceptive pills (OCPs) are one of the most common used ways for preventing unwanted pregnancies, but in order to guarantee a higher rate of success, correct usage is essential. The present study aimed to examine the level of knowledge, attitude and practice of the OCPs users. **Methods:** Two hundred women who received their OCP from a local health center (group 1; n=?) or from a pharmacy (group 2; n=) were questioned according a pre-designed questionnaire. The questionnaire consisted of questions regarding the demographic information, correct usage of OCPs, their side effects, contraindications, non-contraceptive benefits, and some myth-based questions. The rates of correct answers were compared between the two groups using t-test. **Results:** The most commonly used OCP was LD (low dose) contraceptive. The rate of previous unwanted pregnancies for group 1 and 2 was 35 and 24%, respectively. The subjects in group 1 were counseled extensively on the proper use of the contraceptive, and no counseling was performed with the subjects in group 2. The level of knowledge outweighed the level of counseling provided to the subjects. **Conclusions:** Regarding the information and consultation that were given to the subjects by their health services, the subjects' knowledge on the proper use of the oral contraceptive pills was high but not to an extent that would be. The results of this study suggest that health services, especially pharmacies should provide more information and consultation about OCPs for their clients.

Introduction

Oral contraceptives pills (OCPs) are one of the most common used methods for preventing pregnancies but there are important issues regarding these medicines. First and by far the most important reason for using this method is their efficacy. Failure rate of OCPs is about 0.3% for each year of perfect use but success rate decreases dramatically when less than perfect usage occurs¹. Besides the efficacy, OCPs side effects and drug interactions are other factors influencing OCPs usage and also success rate. Users' knowledge is an important determinant of correct drugs usage and therefore their efficacy. One of the best methods to improve OCPs outcomes is educating users on proper OCPs use by provider-patient communication and counseling²⁻⁵. This may reduce unnecessary follow-up visits, decrease number of unintended pregnancies, increase patient satisfaction with their health care⁶,

higher adherence and correct use, decrease side effects and earlier recognition of serious problems⁷.

In Iran OCPs are provided by two means; private and public sector. Private sector includes pharmacies which are run by pharmacists and the public sector which includes public health houses in which OCPs are provided by health care workers (HCWs). The overall aim of current study, combine with findings from a companion survey of knowledge of providers⁸ was to add to the evidence, required for developing service practice recommendation with a potential to advance contraceptive use and ultimately improve patients safety. This was performed by examining the level of knowledge, attitude and practice of OCPs users who received their OCPs from these two sectors.

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Methods

Data was collected between November 2009 and October 2010 in Tabriz, Iran. Randomly selected OCPs users from 2 sectors; health care centers and pharmacies were invited to the study. The aim of the study was explained to the subjects and written consent were obtained from those who consented to take part in the study and they were asked to complete a questionnaire. The questionnaire was adopted from Gaudet and colleagues research² and translated to Persian and some changes made to the original one before use. The final questionnaire had 36 questions; some with sub-questions. We tried our best to protect our participants' rights and confidentiality.

200 women who were using oral contraceptives and who were received OCPs from health centers (group 1, 100 subjects) and pharmacies (group 2, 100 subjects) participated in the study and their knowledge, attitude and practice were compared. The questions were divided into the following sections: demographic information, general information regarding OCPs, their non-contraceptive benefits, serious dangers and side effects and myths questions. Those who did not want to participate in the study were excluded. Validity and reliability of the questions were examined on 50 subjects prior to the study (Cronbach's $\alpha = 0.88$). Result reported as mean \pm SD, number and percentages. Student's t-test was used for quantitative variable analysis and chi-square was used for analyzing qualitative variables analysis. SPSS software (ver.13) was used for analyzing data. A significant level of $P < 0.05$ was adopted for all tests.

Results

Demographic information

In the present study level of knowledge of 200 OCPs users in two groups regarding OCPs were examined. The mean age of group 1 and group 2 were 31.7 ± 6.7 years with a range of 18-45 years and 31.8 ± 6.8 years with a range of 18-46 years, respectively. 13% and 9% of women in two group 1 and 2 were illiterate, 45% in group 1 and 22% in group 2 had primary school education, 29% and 20% were middle school graduates, 8% in group 1 and 32% in group 2 were high school graduates while 4% and 11% had university education, respectively. Subjects in group 1 had history of using OCPs (90%), IUD (37%) and condom (18%) and in group 2 these were OCPs (57%), IUD (27%) and condom (24%). 35% and 24% of users reported a history of unwanted pregnancies in group 1 and 2, respectively ($P < 0.001$). 1% of subjects in both groups were smokers. History of illnesses which could affect subjects health in the presence of OCPs were migraine and thyroid disease (each 4%), depression (3%), vaginitis and diabetes (each 2%) and seizure, coagulation problems, breast cancer in first degree relatives and renal problems (each 1%) for group 1. These were vaginitis (8%), seizure (5%), diabetes and thyroid disease (each 4%), migraine and renal problems (each 2%) and coagulation problems, depression and

angina (each 1%) in group 2. No one had liver or gallbladder diseases, high blood pressure, past or current breast cancer or endocervical cancer and none of subjects had planned an operation in near future.

General knowledge about OCPs

LD (low dose) contraceptives which contain 0.15 mg Levonorgestrel and 0.03 mg ethinyl estradiol were used by 89% in group 1 and 82% in group 2. After LD tablets, the other used OCPs were HD (high dose), lynestrol, triphasic, Marvelon[®], Yasmin[®] and Cyproterone Compound (under 10% for all in both groups). The mean duration of OCPs usage in groups 1 and 2 were 48.07 ± 52.1 months with a range of 2-240 months and 40.89 ± 47.1 months with a range of 2-276 months, respectively.

The reasons given for OCPs usage in group 1 were worrying about problems caused by other methods and their side effects (56%), ease of use (53%), worrying of ineffectiveness of other methods (26%), efficacy (13%), non-contraceptive benefits (9%), availability (8%), not relying on husband (4%) and low price (3%), while for group 2 the reasons were worrying about other methods problems and side effects (45%), ease of use and worrying of ineffectiveness of other methods (38% for both), non-contraceptive benefits (26%), efficacy (19%), not relying on the husband (7%), low price (4%), availability (3%), and inability of husband in using other methods and choosing a reversibility of the method (both 1%). The main prescriber of OCPs for the users who received their OCPs from pharmacies and health workers were midwives with 77.0% and 44.4%, respectively.

The most common medical examination performed on the subject was Pap smear test (38% and 32% for group 1 and 2 respectively). The percentages of users in both groups who had physical exam of various organs during OCP usage are seen in Table 1.

Knowledge about initiation and use of OCPs

90% and 93% of subjects in group 1 and 2 reported using tablets on regular bases. 92% of subjects in both were reported taking tablets at night before sleep and over 90% of subjects said the best time for taking tablets regarding meals were after food. More than 95% of both groups knew the correct initiation method of OCPs but only 94% and 31% of women received this information from HCWs and pharmacists, respectively. 77% of group 1 and 63% of group 2 knew what to do when one tablet of monophasic tablets was forgotten but these percentages was reduced when questions were asked about forgetting 2 or more tablets (0 and 2% for group 1 and 2 respectively). Only 81% of women in group 1 received information about forgetting OCPs while subjects in group 2 did not receive any information.

Knowledge about non-contraceptive benefits of OCPs

Women knowledge regarding non-contraceptive benefits of OCPs was asked by 3 questions. While only

58% of women in group 1 knew OCPs reduced amount of menstrual bleeding, this was known by 66% of women in group 2, and only 31% of women in group 1 received information. About 39% of group 1 knew that OCPs could reduce menstrual pain and only 18% users received information about this issue by health workers.

Disease or tests	Group 1 (%)	Group 2 (%)	P value
Pap smear test	38	32	0.376
Weight	35	20	0.017
Blood pressure	34	29	0.449
Heart and lung	29	21	0.193
Breast exam	24	17	0.222
Varicose veins	8	2	0.052

Table 1. Performed physical exam of various organs during OCP usage in group 1 and group 2.

63% and 56% of groups 1 and 2 knew that appearance of new acnes was not OCP related or serious and therefore no need to visit a physician but only 15% of subjects in group 1 received information in this matter.

Knowledge about potential problems with OCPs

Less than 30% of both groups knew that drug-drug interaction with OCPs could occur with some but not all medications but only 23% of health workers provided such information to the users. The level of counseling by pharmacists was only 3%. 10% and 2% thought OCPs have drug-drug interaction with all drugs while 3% and 8% believed they have no interaction with any other drug, in group 1 and 2 respectively.

72% in group 1 and 68% in group 2 knew that when there was no menstrual bleeding after one pack of OCP was finished, it was necessary to start a new pack and also to visit a doctor. 10% and 11% of group 1 and group 2 answered stopping tablets all together. Only in group 1, 37% of subjects received information in this matter.

Just over 25% of both groups knew that visiting a doctor was necessary when there was pain or edema in thigh or calf but only 7% of HCWs and none of pharmacists provided this information to the users. In case of severe headaches, 19% and 27% of group 1 and 2 knew that they should take pain killer and also visit their doctors, respectively; of those less than 10% in both groups thought that OCPs should be discontinued. Only 12% of users in group 1 received information about this issue and group 2 did not received any.

Knowledge about OCPs side-effects

57% of group 1 and 70% of group 2 knew that taking these tablets with food or with an antiemetic or in a different time could diminish OCPs induced nausea and vomiting while only 18% of users in group 1 received information about this issue. 54% of both groups correctly believed that breast tenderness needed physician visit but no need for OCPs discontinuation

while only 34% of users in group 1 received information about this side effect

Only 34% of users in group 1 received information about breakthrough bleeding while 70% of group 1 and 74% of group 2 knew that they should continue with the tablets and visit a physician if the problem insisted. Fewer than 10% of both groups believed that there was no need for physician visit and 13 and 8 percent of group 1 and group 2 believed that OCPs should be stopped immediately, respectively.

Knowledge about other recommendations during OCPs use

Only 22% and 6% of group 1 and group 2 knew that smoking could increase OCPs dangers. Only 17% of HCWs provided this information to the users. Only 20% and 26% of group 1 and group 2 knew that OCPs could reduce ovary and uterine cancers, respectively, while in case of breast cancer, less than 10% of the subjects in both groups knew that OCPs could increase the chances of this type of cancer. Only 20% 15% of users in group 1 and none in group 2 received information about these issues, respectively.

Knowledge about controversies or myths concerning OCPs

52% of group 1 and 56% of group 2 believed that OCPs could increase their body weight while only about 33% of group 1 and 31% of group 2 believed it did not cause any weight change and less than 15% of the subjects thought it could even decrease weight. Only 33% of users in group 1 received information about effects of OCPs on body weight changes.

Only 11% of both groups believed that OCP use did not have effect on their child bearing chances, while 41 and 46% of group 1 and 2, respectively thought it would reduce possibility of having children in future, and only 27% of women in group 1 received this information. 74% and 71% of group 1 and group 2 believed that dry mouth caused by OCPs was not an indication for drug discontinuation and can be solved by drinking extra water, while only 2% of health workers and none of pharmacists gave information about this issue.

Summary of the results of level of knowledge about OCPs including the correct answer for each question in two groups and level of counseling provided by health workers and pharmacists are shown in Table S1 (in supplementary information) .

Discussion

This study compares knowledge of OCP user women, who received their medication from pharmacies and health care centers in Tabriz. This compression was performed on OCPs risks, benefits and side effects and showed great lack of knowledge in several key areas. These two groups received their OCPs from two sources and as it was mentioned in our previous article, the providers differ in level and type of education, but there are also differences in the type and frequency of continuing education, type of clientele and

responsibilities, types and prices of dispensed OCPs and level of workload⁸.

The level of users' knowledge in many OCP related matters was very low and for many of the questions, many false answers were given. Furthermore, "no response" and "do not know" options were selected by many of subjects for majority of the questions. Unwanted pregnancies among our subjects were very high (35% and 24% in group 1 and 2, respectively), which could be a direct result of lack of knowledge among our users. Previous study has shown that counseling could increase knowledge⁹ and affect their choice of contraceptive¹⁰. By advancing counseling of users and improving their knowledge, this problem and many other problems associated with incorrect use of OCPs could be reduced.

Previous reports showed a low level of counseling¹¹⁻¹³. In current study, subjects in group 1 received significantly more counseling than group 2 and the level of knowledge was higher in group 1 in many areas. This shows a direct effect of counseling on knowledge level. In summary the level of counseling provided for users were very low and nonexistence in many areas especially in group 1, but compare to this low level of counseling, the level of knowledge was higher than expected. It seems that this relatively higher level of knowledge is as result of information provided from sources other than pharmacies or health care centers. These sources of information could be the prescribing physician, media, internet and family and friends. Previous study on medication information among pregnant woman showed that a low percentages of users were satisfied with the information they received¹⁴ and information provided from sources other than pharmacists and midwives such as the internet and the package insert¹⁵ literature, doctors and journals¹⁶, played an important role in determining level of pregnant woman knowledge¹⁷⁻²⁰.

Our suggestion for improving this situation is to provide pharmacists and HCWs with up to date information and also teach them tools for counseling and also make it compulsory to provide information to the users. Beside these solutions, information that comes from other sources could be very effective and works should be performed to provide users with the most reliable information from sources other than pharmacies and health care centers.

All of these could improve compliance of medications use and efficacy and reduce problems of failed medications; such as unwanted pregnancy and also other problems such as side effects and life threatening problems such as deep vein thrombosis in case of OCPs. By enhancing providers knowledge and counseling level on OCPs, family planning program could work more efficiently and rate of failure in the contraceptive efficacy would be reduced even more which will result in a significant reduction in birth rate specially unwanted ones. Counseling by professionals could provide users with correct information which is important and should be emphasized and should be as

continuous pattern. However it is important that to know that individualizing counseling to match women's preferences and situation is necessary.

Limitation of the study

Collecting information from these subjects seemed difficult and time consuming specially in Pharmacy setting. This was overcome by trained researcher who explaining the aim and method of the research and an excellent cooperation was observed among the subjects.

Future studies

For future studies we suggest are examining the level of knowledge and counseling provided by prescribers of OCPs and also examining effects of counseling on OCPs side effects, unwanted pregnancies and compliance in a cohort one.

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Appendix. Supporting Information

Supplementary information associated with this article can be found in the online version, at <http://journals.tbzmed.ac.ir/PHARM>

Table 2.

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