Comparison of Continuation Rates and Reasons of Discontinuation for Cyclofem and Depot-medroxyprogesterone acetate in Rural Areas of East Azerbaijan Province, Iran

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Abstract

Objective: In this study continuation rate and reasons for discontinuation of Depot-medroxyprogestrone acetate (DMPA)and Cyclofem have been compared.

Materials and methods: A retrospective cohort study was conducted with 422 women (202 Cyclofemand 220 DMPA users)who had started using the methods 12-24 months before the study in East Azerbaijan health houses. Data were collected by reviewing the records and interview with the clients and analysed using Kaplan-Meier and Cox Regression.

Results: The 3, 6, 9, 12 months continuation rate were 56%, 37%, 30%, 27% respectively for Cyclofem versus 75%, 59.5%, 48%, 42.5% for DMPA. Menstrual changes were reported significantly more by the DMPA users than the Cyclofem users (85% vs. 73%, P=0.008) as the main reason for the discontinuation, the difference mainly reflected of amenorrhea (50% vs. 23%, P=0.003). None of DMPA users and 11% of Cyclofem users claimed frequency of visits and lack of method supplies as their main discontinuation reason.

Conclusion: Discontinuation rate was high for the both methods but it was higher for Cyclofem.The common side effects mentioned as the main reasons for discontinuation of the both methods are not health threatening. Therefore, health care providers may help to improve their continuation rate by appropriate consultation.

Keywords: Cyclofem, DMPA, Continuation rate, Discontinuation reason

Introduction

Injectable contraceptives are among the popular contraceptive methods in the world (1).Prevalence of their use in rural areas of Iran and the province of east Azerbaijan are higher than the urban (5.9%, 8.4% vs.1.2%, 1.4%, respectively)(2). Depot-medroxyprogestrone acetate (DMPA)and Cyclofem are only available injectable contraceptive methods in Iran.

Progestin-only injectable have relatively long contraceptive effects (2 or 3 months), high efficacy,

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safety, convenience, privacy and reversibility and do not interfere with the spontaneity of intercourse. However, they also cause changes in menstrual bleeding patterns in most users, including amenorrhea and prolonged or irregular spotting/bleeding (3).

Combined injectable were developed to provide better cycle control than progestin-only injectable (4). However, the greater frequency of injections required and the narrower window in which they must be scheduled may be inconvenient for some users, and the monthly injections entail an increased workload for family planning providers(3).

To the best of our knowledge, no study has addressed the continuation rate of Cyclofemin Iran and all of published studies on DMPA continuation rate were in the urban areas. Therefore,in this study we aimed to evaluate Cyclofem continuation rate and compare it with DMPA continuation rate in rural areas of East Azerbaijan Province.

Materials and methods

This retrospective cohort study was conducted in rural areas of East Azerbaijan province. There are 1072 health houses in the province which cover about all 1.3 million populations in the rural areas.In the health houses, all kind of contraceptives are available to married couples free of charge. All injectable contraceptive users in the area get the services from the health houses.

We randomly selected 7 (out of 19) districts and in each of them we randomly selected one third of all rural health houses which study methods had been used by their clients. As there were about 1500 subjects in the 7 selected districts which could meeteligibility criteria,we estimated that we could get about 500 eligible subjects from the one third of health houses. At the selected health houses, we sampled all women whose first injections were between 12-24 months before sampling. Data were collected by reviewing the records and interview with the clients. Data collection took five months.

To assess validity and reliability of the data collection tool, content validity and test- retest reliability were used. The analyses were carried out using SPSS for Windowsver.13.5 or STATA-ver. 9.2.Kaplan-Meier was used to compare the continuation rates and Cox regression to assess the association between selected characteristics and continuation rate of DMPA and Cyclofem.

Considering one-year continuation rate for 45%for DMPA, two-sided 5% level of significance and with 85%power, 200 subjects was needed in order to determine at least 15% difference in one- year continuation rate. In the 48 selected health houses 501 women had inclusion criteria. Therefore, we decided to sample all of them, but we were unable to interview 79 of them (31 from Cyclofem group and 48 from DMPA) because of refusing to be interviewed (23, 25 women) or migration (8, 23women); Thus in total 422 women contributed necessary data.

The study was approved by the Ethical committees of Tabriz university of Medical Sciences. Informed consent was obtained from all participants before they were interviewed.

Results

The mean age of the participants was 34 years (SD =7.0);58% from Cyclofem group and 48% from DMPA group had one or two children. Other characteristics have been shown in table 1.

Table 1: Characteristics of the subjects by study group*

Characteristic	DMPA (n=220)	Cyclofem (n=202)
Age (years)		
≤ 25	23(10.5)	29(14.4)
26-34	90(40.9)	95(47.0)
35-44	85(38.6)	67(33.2)
≥45	22(10.0)	11(5.4)
Mean±SD	34±7.3	33±6.7
Education		
<high school	204 (92.7)	172(85.1)
High school	16(7.3)	30(14.9)
Occupation		
Housewife	209 (95.0)	182 (90.1)
Others	11 (5.0)	20 (9.9)
Number of children		
1-2	124 (56.4)	145(71.8)
≥ 3	96 (43.6)	57 (28.2)
History of abortion		
Yes	43 (19.5)	51 (25.2)
no	177 (80.5)	151 (74.8)
Pervious contraceptive method		
The pills	133(60.5)	133 (65.8)
IUD	38 (17.3)	24 (11.9)
Condom	14 (6.4)	16 (7.9)
Coitus Interruptous	25 (11.4)	11 (5.4)
DMPA	0(0)	16 (7.9)
Cyclofem	2 (0.9)	0 (0)
None	8 (3.6)	2 (1.0)

*The data are given as n (%) unless otherwise is specified

The continuation curve for DMPA was steadily

higher than that for Cyclofem. At the end of 3, 6, 9 and 12 months, 56%, 37%, 30%, 27% of the Cyclofem users versus 75%, 59.5%, 48%, and 42.5% of the DMPA users continued to use the method (figure 1).

The most common reported main reason for discontinuation of the both methods was changes in menstrual pattern. It was reported less commonly by the Cyclofem than the DMPA users (73% vs.85% P=0.008), especially amenorrhea (23% vs. 50% P=0.003). However, conditions with increased blood loss (polymenorrhea, increased flow period, increased amount of flow) were reported more commonly by the Cyclofem users (18% vs. 7%, P=0.002). None-menstrual medical reported reasons were not common (3% and 6%, respectively). None of DMPA users and 11% of Cyclofem users claimed frequency of visits and lack of method supplies as their main discontinuation reason (table 2).

Based on Cox analysis, user of Cyclofem compared with DMPA and women with low attitude score regarding injectable contraceptives and high BMI had lower continuation rates than the others. Although risk of discontinuation in women with history of caesarean was higher but it was not statistically significant (p=. 059) (table 3).

Discussion

In this two-year comparative study, the continuation rates were significantly higher for DMPA than for Cyclofem. This is consistent with finding of a study in United States that continuation rate was 67% for DMPA and 58% for Cyclofem (5) but not consistent with findings of some studies like a study in Vietnam which showed one year continuation rate was higher(74%) for the both methods (6).

The 12-monthscontinuation rate for DMPA in this study (42%) is comparable with that observed in the previous studies in Iran, which showed the rates of 18% (7)and 33% (8).This rate for Cyclofem (27%) is

Table 2. Frequency of reasons for discontinuing study method by study group

Reasons	Cyclofem (n=160)	DMPA (n=143)
Menstrual changes	**115(71.9)**	**121(84.6)**
Amenorrhea	36 (22.5)	71 (49.7)
Spotting	20 (12.5)	17 (11.9)
Irregular menstrual	14 (8.8)	7 (4.9)
Polymenorrhea	3 (1.9)	------
Oligomenorrhea	7 (4.4)	10 (7.0)
Increased flow duration	15 (9.4)	6 (4.2)
Increased flow period	1 (0.6)	1 (0.7)
Increased amount of flow	13 (8.1)	4 (2.8)
Decreased amount of flow	6 (3.8)	5 (3.5)
Non-menstrual medical reasons	**6(3.8)**	**9(6.3)**
Wish for pregnancy	**16(10.0)**	**7(4.9)**
Difficult to attend to get the injection	**7(4.4)**	**0**
Lack of method supply	**10(6.3)**	**0**
Fear of infertility	**1(0.6)**	**1(0.7)**
Other reasons*	**5(3.1)**	**5(3.5)**

* Menopausal, divorce or personal reasons

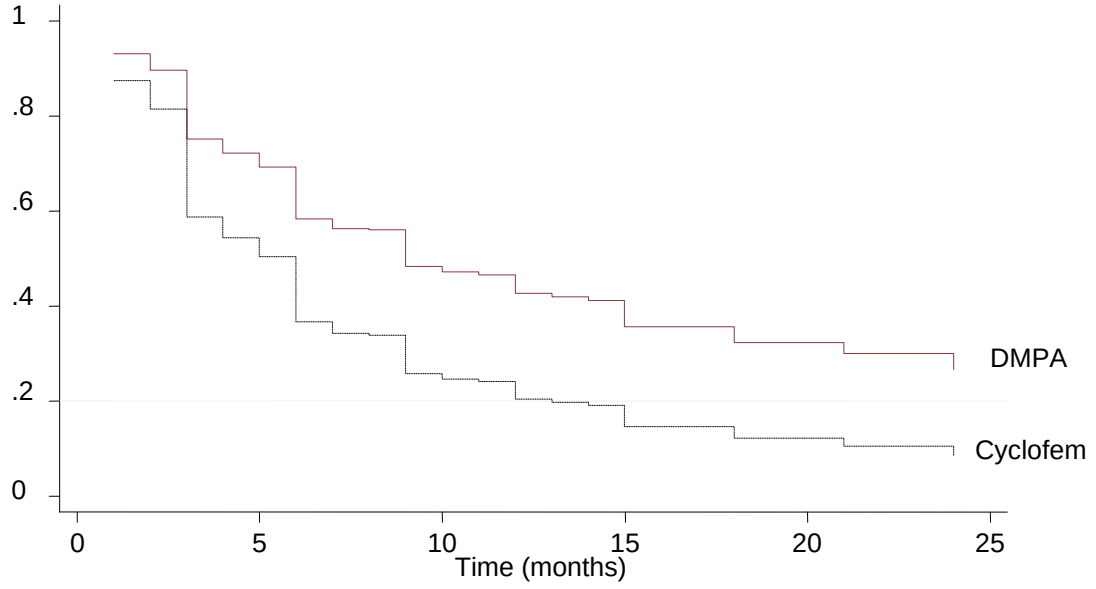

figure 1: Cox model survival graph for averages of predictors compared between the Cyclofem and DMPA users

Table3. Cox regression analysis to assess the association between selected variables and discontinuation of DMPA and Cyclofem.

Variable	Hazard Ratio	95% Confidence intervals	P-Value
Cyclofem/DMPA	1.675	.341-.838	.000
BMI	1.030	1.013-1.048	.005
History of caesarean	1.247	.988-1.576	.059
Attitude score	0.894	.856-.933	.001

in lower level of the rates reported for Cyclofemin other developing countries(9-13).The rate was varied from 25% in Mexico (12) to 81%in China(10).

The main reason for discontinuation of the both methods was menstrual changes, but they were more common among DMPA users.This is consistent with findings of a study in Vietnam which menstrual problems were reported as main reason of discontinuation for 22% of DMPA and 11% for Cyclofemusers (5).The difference in discontinuation rates between the two methods mainly reflected in the monthly visits and lack of method supply which accounted for 4% and 6%of the discontinuation, respectively, for Cyclofem compared with none for DMPA.

The most common reported menstrual problems as the main reason for discontinuation was amenorrhea in the both groups but its percentage was about two-fold among DMPA group that is consistent with findings of the previous studies (9-12). In a comparable study in the Kenya, incidence of amenorrhea in Cyclofem and DMPA groups was 21% and 71%(3) and in another study in Vietnam they were 27% and 4%, respectively (5). In the WHO's large multinational original report of menstrual bleeding patterns, the percentage of women with amenorrhea using Cyclofem was quite low—2 % by the end of the first year (13).

In this study we found significant positive correlation between BMI, history of caesarean section and negative correlation between attitude score and continuation rate of injectable contraceptives. We did not find any correlation between age, women's and their spouses' educational level and their jobs with the continuation rate which is similar with results from the Egyptian study (14). But, in another previous study in urban areas of Iran women's and their spouses' educational level, number of living children had significant correlation with continuation rate of DMPA (7).

The results of some studies have shown that intensive-structured counselling (15) and counselling on expected side effects and other information before initiation of DMPA can greatly increase continuation rate(16). A pervious study in the province has shown most new family planning clients are not informed about common side effects of the chosen methods (17). Therefore, appropriate counselling for the injectable clients before method initiation may help to improve their continuation rate.

In conclusion, continuation rates for DMPA were substantially higher than those for Cyclofem. Menstrual problems were the main reason for discontinuation for both methods.

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