

Assisting IUD and DMPA Users with Overcoming their Sexual and Mood Problems

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Abstract

Background: Contraceptive side effects have been recognized as the most important reasons accounting for discontinuation of the methods.

Objectives: The present study attempts to identify the probable side effects that negatively affect sexual satisfaction and depression in Intra Uterine Device (IUD) and Depo-Medroxyprogesterone Acetate (DMPA) users.

Methods: 150 IUD users and 150 DMPA users who had started the respective contraceptive method since the past 12-18 months participated in a cross-sectional study conducted in 34 health centers from August 2017 to January 2018, in Tehran, Iran. Index of Sexual Satisfaction and Patient Health Questionnaire were used for assessing sexual satisfaction and depression in the participants, respectively.

Results: Chi-square and independent t-test showed no significant difference between demographic characteristic in the two groups ($P>0.05$). The linear logistic regression analysis showed that no variables affect sexual satisfaction in IUD users, while depression ($P=0.01$, $B=1.12$) and dysmenorrhea ($P=0.05$, $B=2.06$) were meaningful factors accounting for sexual satisfaction in DMPA users. Influential factors on depression were dysmenorrhea ($P=0.005$, $B=0.41$) in IUD users, and sexual satisfaction ($P=0.005$, $B=0.05$) and weight gain ($P=0.029$, $B=0.31$) in DMPA users. Pearson test showed a significant correlation between sexual satisfaction and depression ($P=0.05$, Pearson correlation= 0.11).

Conclusion: This study helps clinicians to improve sexual satisfaction and mood levels in IUD and DMPA users by manipulating some influential factors. With regard to the correlation between sexual satisfaction and depression, health providers should pay greater attention to these clients' sexual life when they complain of depression, and vice versa.

Keywords: *copper intra uterine device, depo-medroxyprogesterone acetate, sexual satisfaction, depression, associated factors*

Introduction

Among the numerous contraceptive methods, Intra Uterine Device (IUD) and injectable contraceptives (mainly Depo-Medroxyprogesterone Acetate or DMPA) are most common because of their reversibility and high effectiveness. The global prevalence of IUD and DMPA in 2015 has been 14% and 5%, respectively [1]. Changes in the population pyramid in Iran has recently encouraged people to use reversible methods, and consequently IUD and DMPA have turned to the most common long-term methods [2]. In Iran, IUD and DMPA

coverage stood at 7.2% and 0% in 1994 [3], and 8.4% and 3.6% in 2015, respectively [1]. Each contraception method has a different effect on sexual function, but the effects of IUD & DMPA on sexuality have not been fully determined [4]. Although protection against pregnancy can decrease anxiety and contribute to more sexual satisfaction, some side effects of contraceptives, such as bleeding, abdominal cramps, mood and weight gains, can exert negative effects on sexuality [5]. In addition, there is still disagreement on the effects of DMPA on mood [6,7]. Our previous study compared sexual

satisfaction and depression levels among DMPA and IUD users [8]. The present study attempts to evaluate the factors affecting sexual satisfaction and depression in IUD and DMPA users independently. This issue can specially be important when users express overall satisfaction with a certain contraceptive method (such as DMPA) and only complain of sexual problems or depression after starting the method. It seems that understanding, and then manipulating, these influential factors contributes to the promotion of sexual satisfaction and depression, and thus prevention of contraceptive discontinuation.

Methods

The present research is a cross-sectional study conducted in Tehran, Iran. The necessary scientific authorization and approvals were obtained under no. IR.TUMS.FNM.REC.1396.3209 from academics and ethical committee of Tehran University of Medical Sciences.

Sampling

150 IUD and 150 DMPA users from 34 health centers affiliated with Tehran University of Medical Sciences participated in this study conducted from September 2017 to January 2018. Convenient sampling was conducted, and approximately five women with IUD and five women with DMPA from each center were enrolled in the study. Participants of the two groups were not matched for any variables, but because of homogeneity of participants in each center, no significant differences were observed in the demographic characteristics of the two groups.

Participants

The tenets of the current version of the Declaration of Helsinki were followed. After the aim and process of the study was explained to the participants, their verbal and written informed consent was obtained. Eligible participants were invited to the health centers and those who intended to participate filled out a questionnaire. One female researcher was in attendance in all cases. The inclusion criteria were being a 19-50 year-old married woman, a minimum 12 and a maximum 18 months of IUD or DMPA usage at the time of the study, and being sexually active (at least 6 intercourses during the past six months). Exclusion criteria included not having a current history of alcohol or drug abuse, and no hormone

consumption (OCP, estrogen and progesterone) during the past 2 months.

Outcome measurement

One demographic checklist and two standard questionnaires (one for sexual satisfaction and another for depression) were utilized as research tools. The checklist included 9 demographic questions. Sexual satisfaction was assessed by Index of Sexual Satisfaction (ISS), a 25 multiple-choice (5-choice) questionnaire with a score range of 0-100. Based on the original paper, any score less than 26 is considered as very high levels of sexual satisfaction, 26-50 as high, 51-75 as low, and more than 75 as very low levels of sexual satisfaction. Content validity was conducted by 10 faculty member experts. Internal consistency and test-retest reliability were found to be in excess of .90, and the scale showed a discriminant validity coefficient of .76 [9]. Depression was evaluated by Patient Health Questionnaire (PHQ-9), consisting of 9 multiple-choice (4-choice) questions, with a minimum and maximum score of 0-27 [10]. Any score of 0-4 is considered as no depression; 5-9 as low, 10-15 as average and >15 as high levels of depression. Validity of this tool was confirmed by test specificity and sensitivity of 76.20% and 73.80%, respectively, and its reliability was obtained by a Cronbach's alpha of 0.87 [11].

Statistical methods:

A review of the studies conducted on contraceptives indicate that the continuation rate of IUD and DMPA stand at 60% and 44% [8]. Considering a two-sided 95% confidence interval with a width of 0.08 (margin of error=.04), a sample size of 300 women was obtained. For the purpose of analysis, descriptive statistics such as distribution, mean, and standard deviation values were adopted. The homogeneity of the two groups was assessed by Chi-square and independent t-test. A linear logistic regression analysis was conducted to estimate the strength of associations. The collected data was then captured in a Statistical Package for Social Sciences-22 software (SPSS Inc., Chicago, IL, USA) for further analysis.

Results

Women who were using IUD and DMPA showed no significant differences in demographic characteristics. The mean of women's and their

husband's age were 33.7 ± 5.5 and 38.3 ± 6.7 years, respectively. Duration of marriage was 6-15 years in 52% of participants. The participants held at least a high school diploma (50%), were in an

average financial condition (50%), had two children (50%), and had cesarean section delivery with their youngest child (58%). 30% of women were in at breast feeding stage (Table 1).

Table 1: Baseline characteristics of IUD and DMPA users

Characteristics		DMPA (N =150) Mean (SD)	IUD (N =150) Mean (SD)	
Women's age (year)		33.67 (5.08)	33.83 (5.98)	0.81 Independent T Test
Husband's age (year)		38.21 (6.42)	38.48 (7.03)	0.72 Independent T Test
Duration of Marriage (year)		11.98 (6.25)	12.25 (7.07)	0.73 Independent T Test
		DMPA (N =150) N (%)	IUD (N =150) N (%)	
Number of children	1	39 (26)	35 (23.3)	0.47 Chi-squared
	2	78 (52)	70 (46.7)	
	≥ 3	33 (22)	45 (30.0)	
Women's education	Under high school diploma	39 (26)	35 (23.3)	0.24 Chi-squared
	High school diploma	78 (52)	70 (46.7)	
	Academic degree	33 (22)	45 (30.0)	
Husband's education	Under high school diploma	55 (36.7)	44(29.3)	0.24 Chi-squared
	High school diploma	60 (40)	71 (47.3)	
	Academic degree	35 (23.3)	35 (23.3)	
Financial condition	Very weak	1 (0.7)	4 (2.7)	0.18 Chi-squared
	Weak	29 (19.3)	35 (23.3)	
	Average	72 (48)	75 (50)	
	Good	42 (28)	27 (18)	
	Very good	6 (4)	9 (6)	
Delivery type	NVD	62 (41.3)	63 (42)	0.90 Chi-squared
	CS	88 (58.7)	87 (58)	
Lactation	Yes	51 (34)	40 (26.7)	0.16 Chi-squared
	No	99 (66)	110 (73.3)	

Evaluation of sexual satisfaction with ISS revealed that nearly 38% of DMPA users versus 26% of IUD users reported low and very low levels of sexual satisfaction that showed sexual satisfaction in DMPA users was significantly lower than that in IUD group ($p < 0.01$). PHQ test

indicated that 20% of DMPA group versus 8% of IUD users experienced average or high levels of depression, and depression was meaningfully higher in DMPA group than IUD users ($p < 0.001$) (Table 2).

Table 2: Compare of depression and sexual satisfaction in IUD and DMPA users

		DMPA (N =150) N (%)	IUD (N = 150) N (%)	P value
Depression	No depression	66(44)	94(62.7)	P<0.001 Mann-Whitney
	Low depression	54(36)	44(29.3)	
	Average depression	26(17.3)	8(5.3)	
	High depression	4(2.7)	4(2.7)	
Sexual satisfaction	Very low satisfaction	3(2)	10(6.7)	P<0.01 Mann-Whitney
	Low satisfaction	53(35.3)	29(19.3)	
	High satisfaction	83(55.3)	78(52)	
	Very High satisfaction	11(7.3)	33(22)	

Findings showed that these contraceptive methods had significant effects on sexual satisfaction.

Backward linear regression was employed to predict the probability of sexual satisfaction with

independent variables in IUD and DMPA users. No factors showed having any meaningful effect on sexual satisfaction of IUD group, while depression ($p=0.01$, $B=1.12$) and dysmenorrhea ($P= 0.05$, $B=2.06$) were significantly influential on sexual satisfaction of DMPA users (Table 3). The obtained results suggest that with a one-unit increase in depression, sexual satisfaction score increases as much as 1.12. That is, an increase in depression is accompanied by a slight decrease in sexual satisfaction level in DMPA users. Also, with a one-unit increase in dysmenorrhea, sexual satisfaction score increases as much as 2.06 scores. That is, an increase in dysmenorrhea is accompanied by a slight decrease in sexual satisfaction level in DMPA users.

Data indicated that the contraceptive method had also a meaningful influence on depression. Backward linear regression showed that dysmenorrhea ($p=0.005$, $B=0.41$) was a predictable factor of depression in IUD users. It can be interpreted that with a one-unit increase in dysmenorrhea, depression in IUD users increases as much as 0.41 scores. Sexual satisfaction ($p=0.005$, $B=0.05$) and weight gain ($p=0.029$, $B=0.31$) were two influential factors on DMPA users' depression (Table 3). With a one-unit increase in sexual satisfaction score, depression in DMPA users increases as much as 0.05 scores. Also, with a one-kilogram increase in DMPA users' weight, depression score increases as much as 0.31 scores.

Table 3: Linear regression analysis (Backward method) of significant associated factors of Depression and sexual satisfaction on IUD and DMPA users

Out comes	Methods	Side effects	B	P value
Depression	DMPA	Sexual Satisfaction	0.053	0.005
		Weight changes	0.316	0.029
	IUD	Dysmenorrhea	0.41	0.005
Sexual Satisfaction	DMPA	Depression	1.121	0.01
		Dysmenorrhea	2.066	0.05

Discussion

It seems that DMPA has negative effects on sexual satisfaction due to different side effects, such as depression and dysmenorrhea. The present study also showed that DMPA has adverse effects on women's mood. Although DMPA users complained of many problems, two factors of sexual satisfaction and weight gain had a significant influence on depression in DMPA users according to backward linear regression. A strong correlation between depression and sexual satisfaction was observed in many aspects.

The first side effect that adversely decreased sexual satisfaction levels in DMPA group was dysmenorrhea. Although dysmenorrhea is not a serious side effect of DMPA, it seems that adding this difficulty to other progesterone-induced problems, such as breast tenderness and depression, can decrease sexual satisfaction. Different opinions exist about the effect of DMPA on sexuality. Many studies report that sexual function is lower in DMPA users than IUD users [12,13], still other studies show no effects on sexuality imposed by these two methods [14,15].

A few studies evaluate the side effects which can adversely affect sexuality in DMPA group, but Yada interestingly reported that pain was the most important factor affecting sexual function, which is in line with findings yielded by this study [14]. The second influential side effect on sexuality in DPMA users was depression. The adverse effects of depression on sexual satisfaction is confirmed. Many studies also indicate that DMPA can adversely affect mood. It seems that the present study adds a new view to this subject and suggests that depression can be a mediator for decreasing sexual satisfaction in DMPA users and it is theoretically possible that elevation of mood improves sexual satisfaction.

In the present research, no variables had any significant effect on the sexual satisfaction levels of IUD users. From a theoretical viewpoint, dysmenorrhea and heavy menstrual bleeding were two side effects that may have negative effects on sexuality of IUD users. Although both of these two side effects were significantly higher in IUD users than DMPA users, no negative effects on sexual satisfaction have been observed in IUD

group. Although women avoid any form of genital contact during bleeding due to religious reasons in Iranian society, it seems that general consumers' high levels of satisfaction with IUD neutralizes this negative effect. Another explanation - as mentioned by Higgins et al. [5] - can be both negative and positive effects of the extended menstrual bleeding, during which some women may also appreciate the chance to refrain from partner intercourse requests. Parts of findings yielded by the present study is similar to the systematic review that was reported in none of the studies according to which not only has IUD had any negative impact on sexual life, but also it has often shown positive effects [16].

Findings imply that IUD users have lower depression levels in comparison with DMPA users. The only influential factor on depression level in IUD users was dysmenorrhea. Dysmenorrhea is one of the most important side effects of IUD [2]. Interestingly, the obtained results show that although both dysmenorrhea and heavy menstrual bleeding were significantly more in IUD group than DMPA users, in women's view, only dysmenorrhea had an important effect on depression. It shows that pain has noticeable effects on mood and quality of life. Although the correlation between depression and dysmenorrhea has been observed by other studies [17], the present study revealed that strategies for management of dysmenorrhea in IUD users can positively affect depression.

Some limitations should be taken into consideration in this research. Depression and sexual satisfaction are multifactorial subjects and they cannot be definitely attributed to the existing differences in contraceptive methods. The two groups of the study did not match altogether, but participants from many centers were recruited and an equal number of IUD and DMPA users were recruited from each center.

The present study showed that in DMPA users, management of depression and dysmenorrhea can positively affect sexual satisfaction, and promotion of sexual satisfaction and weight control can positively affect their mood. In IUD users, only dysmenorrhea can have negative effects on their mood and no factors affect sexual satisfaction. These findings may help clinicians to employ appropriate interventions regarding those IUD or DMPA users who are generally satisfied

with their current contraceptive method and only complain of sexual problems or depression.

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Conflict of interest

There was no conflict of interest in the present study.

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