

Association between using of Mirena and Changes on Female Sexual Function

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ABSTRACT

Background: Mirena prevents pregnancy for up to five years after insertion. It is one of several hormonal intrauterine device (IUD) with Food and Drug Administration approval. Like the progesterone-related mental side effects, is still a rather unexplored scientific field?

Objective: the present study aimed to assess the perception effects of mirena intrauterine contraceptives (IUC) and the actual sexual functioning, weight gain and mood changes level.

Patients and Methods: this study included 46 women, using an intrauterine contraceptive method. The study was conducted in Obstetrics and Gynecology Department, Zagazig University Hospitals. All patients who enrolled in the study were subjected to full history taking, clinical examinations, and estimation of female sexual function index and BMI. Main outcomes was estimated including desire, orgasmic function, lubrication and vulvovaginal symptoms, sexual satisfaction and mood changes.

Results: About 19.6% of the studied group had no pain during insertion, 36.9% had mild pain, 36.9% had moderate pain and 6.6% had high pain. Mean pain score was 4 ± 1.8 with range from 0 to 8. Most frequent complication among the studied group were vulvovaginitis (52.2%) followed by abdominal and pelvic pain (37%). Only 6.5% had heavy menstrual bleeding and no cases had uterine perforation during insertion.

Conclusion: Using of mirena IUD type is not associated with changes related to sexuality of women, quality of life and body weight gain.

Keywords: Mirena intrauterine contraceptives, Weight gain, Menstrual bleeding.

INTRODUCTION

The intrauterine device (IUD) is one of the most popular contraceptive methods, especially for long-term reversible contraception, as it can be easily fitted and removed ⁽¹⁾. Mirena is a hormonal IUD that can provide long-term birth control (contraception). It prevents pregnancy for up to five years after insertion. It is one of several hormonal IUDs with Food and Drug Administration approval ⁽²⁾. Mirena offers effective long-term contraception. It can be used in premenopausal women of all ages, including teenagers ^(3, 4).

The levonorgestrel-intrauterine system, (Lng-IUS) offers excellent contraceptive efficacy and a range of non-contraceptive benefits such as a significant reduction in mean menstrual blood loss, reduced endometriosis-associated pain, and reduced fibroid associated blood loss ⁽²⁾. The most commonly used and most studied Lng-IUS contains 52 mg levonorgestrel (Mirena®, Bayer AG). It involves a low systemic release of levonorgestrel and is therefore, on a theoretical basis, believed to be a good option for women with previously reported systemic progesterone associated side effects ⁽⁴⁾.

The aim of this study was to assess the effects of mirena intrauterine contraceptives (IUC), the actual sexual functioning, weight gain, mood changes level.

PATIENTS AND METHODS

A cross-sectional analysis study included 46 women using an intrauterine contraceptive method. The

study was conducted in Obstetrics and Gynecology Department, Zagazig University Hospitals.

Inclusion criteria: The study included young women aged from 18 – 40 years currently using mirena as intrauterine contraceptive (IUC). Ongoing intrauterine contraceptive use was the only inclusion criterion.

Exclusion criteria: Ingestion of any hormonal treatment, pregnancy, pelvic inflammatory disease and genital tumors.

All patients who enrolled in the study were subjected to the following: history taking, demographic characteristics, duration about hormonal contraceptives uses, education status, family status, obstetric history and complete clinical examination. Female sexual function index (FSFI) was evaluated using the Turkish version of the FSFI ⁽⁵⁾. BMI was calculated using the Healthy Weight Guide BMI calculator.

Questionnaire Setting: All respondents answered a three-part validated questionnaire. All questions except for height and weight were multiple choice with boxes to tick and extra space for comments on the questions about side effects. Questions had a short multidimensional scale for assessing sexual function in women according to **Rosen et al.** ⁽⁵⁾, and the McCoy female sexuality questionnaire (MFSQ) ⁽⁶⁾, weight gain and mood changes.

Outcome Measure: including desire, orgasmic function, lubrication and vulvovaginal symptoms, and relationship and sexual satisfaction. Weight gain and body composition. Detection of mood changes as



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anxiety, depression, sleep disorders or restlessness after using IUD.

Ethical consent:

An approval of the study was obtained from Zagazig University Academic and Ethical Committee. Every patient signed an informed written consent for acceptance of the study. This work has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for studies involving humans.

Statistical analyses

Data were collected and analyzed using Microsoft Excel software. Data were then imported into Statistical Package for the Social Sciences (SPSS version 20.0) software for analysis. The results was presented as frequencies and proportions in tables and text. Comparisons of differences between groups was performed using the χ^2 test and when the expected count was less than five, Fischer's exact test was used. In order to adjust for identified possible confounders also affecting sexual function and asked for in the questionnaire, we used binary multiple logistic regression analyses. P value ≤ 0.05 was considered significant.

RESULTS

46 women age from 22 to 40 years. They used mirena as contraceptive method. About 76.1% of the studied group had parity 2 to 3 (Figure 1). 19.6% of the studied group had no pain during insertion, 36.9% had mild pain, 36.9% had moderate pain and 6.6% had high pain. Mean pain score was 4 ± 1.8 with range from 0 to 8 (Table 1).

Most frequent complications among the studied group were vulvovaginitis (52.2%) followed by abdominal and pelvic pain (37%). Only 6.5% had heavy menstrual bleeding and no cases had uterine perforation during insertion (Table 2). There was no statistical significant difference in depression before and after mirena insertion, but there was a statistical significant increase in frequency of anxiety (43.5% before versus

80.4% after), sleep disorders (6.5% before versus 41.3% after), and restlessness (4.3% before versus 58.7% after) among the studied group (Figure 2). 42 (91.3%) of the studied group were satisfied (Table 3).

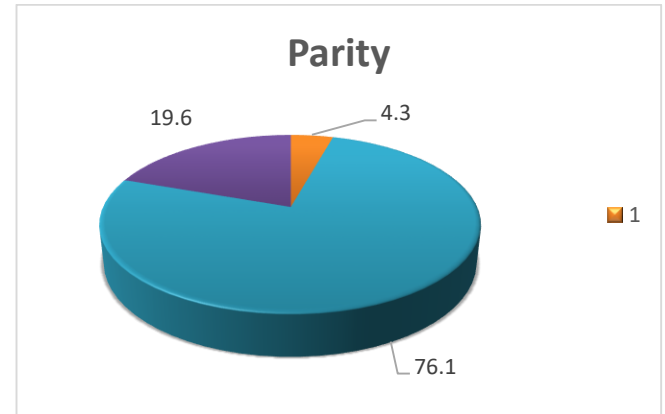


Figure (1): Parity among the studied group

Table (1): Pain during insertion among the studied group

Variable		(n=46)	
		N	%
Pain:	No (0-2)	9	19.6
	Mild (3-4)	17	36.9
	Moderate (5-6)	17	36.9
	High (7-8)	3	6.6
	Mean \pm SD range	4 ± 1.8 0-8	

Table (2): Side effects of the Mirena IUD among studied group

Variable		(n=46)	
		N	%
Uterine perforation during insertion	No	46	100
Abdominal or pelvic pain	No	29	63
	Yes	17	37
Inflammation or infection of the vulva and vagina (vulvovaginitis)	No	22	47.8
	Yes	24	52.2
Heavy menstrual bleeding	No	43	93.5
	Yes	3	6.5

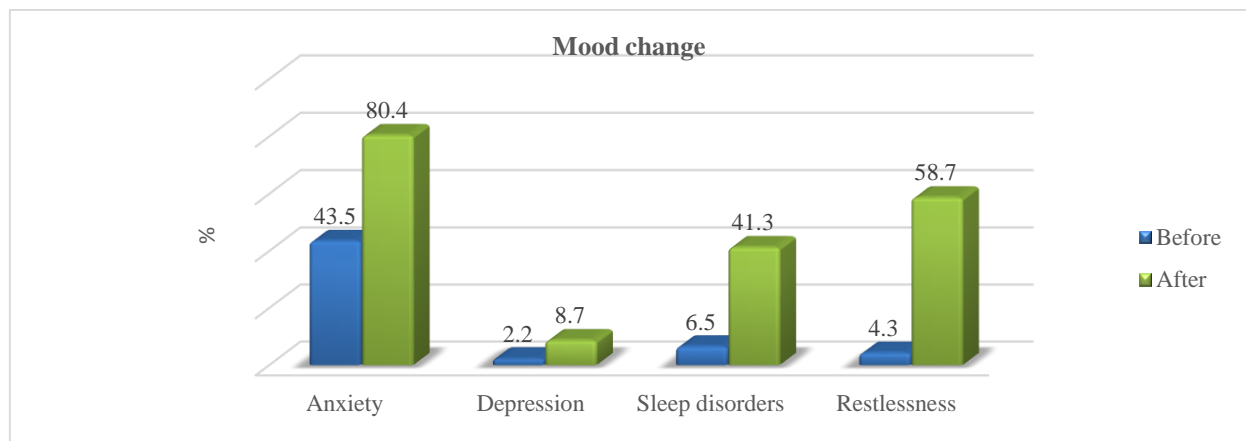


Figure (2): Evaluation of mood change before and after Mirena insertion among the studied group

Table (3): Satisfaction to Mirena among the studied group

Variable		(n=46)	
		N	%
Satisfaction	No	4	8.7
	Yes	42	91.3

DISCUSSION

The possible negative side effects of Lng-IUS on female sexuality is still a matter of debate, with conflicting results, and, like the progestogen-related mental side effects, is still a rather unexplored scientific field ⁽⁷⁾. Nonetheless, these negative side effects are daily issues to be dealt with within clinical contraceptive counseling.

Previously **Malmborg et al.** ⁽¹⁾ reported that 27 % of 1851 young Swedish women using any kind of hormonal contraceptive method had negative effects on their sexual desire compared to 9-11 % of women using hormone-free contraceptive methods.

Sääv et al. ⁽⁸⁾ demonstrated that insertion of mirena IUD, showed number of difficult and failed attempts of insertions in women with a narrow cervical canal.

In a study by **Fouda et al.** ⁽⁹⁾ they found a statistically significant lowering of pain scores with pretreatment with diclofenac potassium and lidocaine gel in parous women having mirena IUD placement, the reduction was not clinically relevant. These findings may be more relevant for nulliparous women who experience more pain than parous women with IUD insertion.

In the current survey, we found that the most frequent side effects in IUD insertion among the studied group were vulvovaginitis (52.2%) followed by abdominal and pelvic pain (37%). Only 6.5% had heavy menstrual bleeding and no cases had uterine perforation during insertion. These are in agreement with **Abo Gharam et al.** ⁽¹⁰⁾ who found that side effects in IUD insertion were nausea and vomiting in 36.7% and syncopal attack in 3.3%. **Maged et al.** ⁽¹¹⁾ found that a higher number of women experienced nausea, vomiting and cramps. The most common side effect was cramping in the abdomen (38.2%). Other side effects included itching, exanthema, sweating, dysuria and paresthesia. **Dijkhuizen et al.** ⁽¹²⁾ showed that major complications such as perforation or major bleeding did not occur. Vasovagal-like responses such as dizziness, nausea and vomiting occurred in 20 participants. Syncope was reported in three participants. They found difficult insertions or lower pain scores. IUD insertion in nulliparous women showed no difference in dilatation of the cervix, patient-scored pain estimation and the number of failed insertions. **Andersson et al.** ⁽¹³⁾ reported that intrauterine device (IUD) insertion difficulty, complications and pain in parous women delivered only by elective caesarean section (CS).

Swenson et al. ⁽¹⁴⁾ studied women requesting either the copper T380A or levonorgestrel IUD and

reported the primary outcome was ease of insertion recorded on a visual analogue scale (anchors: 0 extremely easy, 100 impossible). Patients completed questionnaires addressing pain using a validated visual analogue scale (anchors: 0 none, 100 worst imaginable) before insertion immediately post insertion, and before clinic discharge with no pain or complications. **Edelman et al.** ⁽¹⁵⁾ studied nulliparous reproductive-aged women desiring an IUD for contraception. Subjects completed a series of 100-mm visual analogue scales (VAS, anchors: 0 = none, 100 mm = worst imaginable) to measure their perceived pain at several time points (anticipated pain, leg positioning, speculum placement, tenaculum placement, IUD insertion, equipment removal and 5 min post insertion). Secondary outcomes included provider "ease of placement". They concluded that IUD placement in women did not reduce patient perceived pain.

Sheng et al. ⁽¹⁶⁾ reported that after 3 years of use, 28.7% of 94 users of an LNG-IUS who accepted the device to control pain-associated adenomyosis. They reported a weight gain of more than 2 kg. Weight gain of 4.0 kg and 4.9 kg was also observed in Brazilian women users of the LNG-IUS and TCu380A IUD, respectively, after 5 years of placement of the device ⁽¹⁷⁾. The difference of these studies with the present study may be due to short period of study (6 months only). **Hurskainen et al.** ⁽¹⁸⁾ obtained similar results in the analysis of quality of life where there was occurrence of depression or anxiety and sex life disorders in 236 women with heavy menstrual bleeding treated with LGN IUD or subjected to hysterectomy. The high acceptance of LNG IUD was due to its beneficial effect on the patients' quality of life. In addition, other researcher ⁽¹⁹⁾ has frequently confirmed correct sexual functioning.

CONCLUSION

Using of mirena IUD type is not associated with changes related to sexuality of women, quality of life and body weight gain.

Financial support and sponsorship: Nil.

Conflict of interest: Nil.

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