Research Article

Sexual performance of female after long therapy with hormonal contraception

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Abstract
Introduction: On May 9, 2010, the oral contraceptive pill celebrated its 50th anniversary. **Aim of study:** The aim of this study is to evaluate young, eumenorrheic, healthy women sexuality after long therapy with hormonal contraceptives provided that normal male sexuality. **Patients and Methods:** Patients in this study are those who are attending the family planning clinic in Minya University Hospital, Minya insurance hospital and El-Minya general hospital in the duration from October 2017 until March 2018. **Results:** Patients in this study are those who are attending the family planning clinic in Minya University Hospital, Minya insurance hospital and El-Minya general hospital in the duration from October 2017 until March 2018. **Discussion:** Overpopulation is a common problem in many developing countries due to lack of awareness of the available contraceptive methods in some regions and unmet facilities of contraception in other regions (Najimudeen et al., 2017). **Summary:** Women may present with concerns about sexual function associated with their method of the chosen hormonal contraception.
Keywords: DHEA: Dihydroepiandrosterone, **SHBG**: Sexhormone-binding globulin, **IUDs**: Intrauterine devices

Introduction
On May 9, 2010, the oral contraceptive pill celebrated its 50th anniversary. Today, the oral contraceptive pill, otherwise known as "The Pill" is used by millions of women in the United States and by over 100 million women worldwide.

Several books have been written about various social aspects of the pill, and over 44,000 scientific publications on oral contraceptives have been archived in PubMed over the past half century (Grimes, 2011)

The primary mechanism of action of COC is by suppression of ovulation (Bayalieva et al., 2018). As described by Rivera et al., COC inhibits pituitary production and secretion of follicle-stimulating hormone (FSH) and luteinizing hormone (LH), and blunt the mid-cycle surge of both hormones. The result is inhibited follicular development, ovulation, and corpus luteum formation (Burrows et al., 2012). Consequently, there is a reduction of ovarian estradiol secretion and an absence of progesterone production. Inhibition of FSH and LH also blocks normal hypothalamic production of gonadotropin-releasing hormone. Additionally, in women using COCs, cervical mucus remains thick and highly viscous, and studies have shown that sperm penetration is inhibited as a result of the progestin's effect on mucus (Bayalieva et al., 2018)

Over time, many formulations of COC have been developed, and today's pill contains lower doses of synthetic estrogen than Enovid; almost all COCs that are currently being used contain ethinylestradiol (EE) as the estrogen component. The primary way in which COCs differ among each other is in the progestin component. Progestins have been refined and improved upon since the pill was introduced. Newer pills containing progestins such as desogestrol, norgestimate, and drosperinone are less androgenic, which under certain circumstances is desirable, such as for the treatment of acne or hirsutism. For example, drospirenone is the only progestin FDA approved in the United States that blocks the androgen receptor and is truly antiandrogenic, even without the addition of EE (Stanczyk et al., 2012).

Aim of study:

The aim of this study is to evaluate young, eumenorrheic, healthy women sexuality after long therapy with hormonal contraceptives provided that normal male sexuality.

Patients and Methods

Patients in this study are those who are attending the family planning clinic in Minya University Hospital, Minya insurance hospital and El-Minya general hospital in the duration from October 2017 until March 2018.

Inclusion criteria :

1. Age 18 – 35y
2. Female on hormonal contraception for more than three years
3. Eumenorrheic

Exclusion criteria :

1- Diabetic female
2- Circumcised female
3- Male factor as premature ejaculation

Methods:

All patients are subjected to the following :

Quastionnaire :

a) Hisrory :

1 - Contraception history :

- Method of contraception
- Duration of contraception

2- Menestrual hisrory:

- Age of menestruation
- Last menstrual period
- Menstrual cycle regularity and duration
- Intermenestrual pain and discharge

3 - Sexual history :

- Dyspareunia
- Lipido and desire
- Frequency

4 - Obstetric history :

- Parity

5- Gynacolohical history :

History of fibroid, ovarian cyct and endo-metriosis

6- Medical history :

- General : as diabetes and neuritis
- Local : vaginal infection and discharge

b) Examination

1- General : exclusion of menifestation of diabetes mellitus
2- Local : for vaginal discharge and vaginal infection and back pain for PID

c) Invistigation :

1- Hormonal profile :testosterone and prolactin
2- Ultrasonography on uterus and adenxia
3- Randome blood sugar for diabetes mellitus

Female Sexual Function Index (FSFI) questionnaire

All included participants were invited to attend a personal interview done by the female investigator. The structured interviews were based to answer, in paper and-pencil format, the19-item FSFI questionnaire (Gunst et al., 2017) which was translated into Arabic and tested for validity and reproducibility (Anis et al, 2011). The interviews were normally completed in privacy; interviewer explained items and assisted participants in completing the questionnaire, when necessary. FSFI questionnaire assesses sexual functioning of women in six separate domains (desire, arousal, lubrication, orgasm, satisfaction, pain) in the following manner: 1^{st} and 2^{nd} for assessing desire; 3^{rd} to 6th for assessing arousal; 7th to 10^{th} for assessing lubrication; 11^{th} to 13th for assessing orgasm; 14^{th} to 16^{th} for assessing satisfaction; and 17^{th} to 19^{th} for assessing pain. The Arabic version of FSFI is listed in the appendix.

Total scale score can be computed according to a simple scoring algorithm shown in the following (table 5). FSFI total score of ≤ 27.62 was considered diagnostic of FSD (Hassanin et al., 2018). According to a local figure FSFI total score of ≤ 28.1 was considered diagnostic of FSD (Anis et al., 2011).

Results

Patients in this study are those who are attending the family planning clinic in Minya University Hospital, Minya insurance hospital and El-Minya general hospital in the duration from October 2017 until March 2018.

Patient included in this study were using microcept, levonor, implanone, depoprovera

Table 1: Comparisons of the different types of hormonal contraceptive methods with the individual sex domains' score and total score

	Microcept N=32 , mean±SD	Levonor N=30, mean±SD	Implanon N=18, mean±SD	Depoprovera N=20, mean±SD
Desire	3.59 ± 0.995	2.76 ± 1.02	3.00 ± 1.41	2.25 ± 0.88
Arousal	3.62 ± 1.24	2.96 ± 1.13	3.11 ± 1.32	2.30 ± 0.95
Lubrication	4.90 ± 0.38	4.66 ± 0.47	4.72 ± 0.65	3.95 ± 1.07
Orgasm	4.50 ± 1.32	3.93 ± 1.23	4.33 ± 1.29	3.20 ± 1.39
Satisfaction	4.96 ± 0.17	4.83 ± 0.37	4.83 ± 1.21	3.80 ± 1.12
Pain	4.93 ± 0.34	4.96 ± 0.179	4.88 ± 0.31	4.80 ± 0.509
Total score	26.50 ± 4.44	24.07 ± 4.399	24.87 ± 6.19	20.30 ± 5.9

Discussion

Overpopulation is a common problem in many developing countries due to lack of awareness of the available contraceptive methods in some regions and unmet facilities of contraception in other regions (Najimudeen et al., 2017).

Providing available proper contraception not only can avert maternal and child mortality but also can lead to improvement in economic outcomes (Chola et al., 2015). The contraceptive use increased from 24% to 60% in Egypt, in the period from 1980 to 2003, and since then the rate is fluctuating between 59% and 60% (El-Zanaty and Associates, 2014).

The total fertility rate (TFR) had a continuous downward trend in Egypt till 2000, but this was reversed lately. The TFR increased by 17% between 2008 and 2014, from 3 to 3.5 (El-Zanaty and Associates, 2014).

With increasing fertility rates reported lately an effective contraceptive modality is necessary. However sterilization is a permanent and an effective method of contraception, it is rarely utilized in Egypt: female sterilization was always less than 2% utilized, since 1980s till 2014, (El-Zanaty and Associates, 2014) and vasectomy is extremely rare (Roudi and Ashford, 1996).

Conclusion

In this study, The highest percentage used microcept (32%) Women used levenor (30%), women used depoprovera (20%) and implanone users represented the lowest percentage (18%) where the microcept represented the highest use and the implanone represented the lowest use in this study.

The oral tablets, micorcept (combined oestrogen and progesterone) did not have much negative impact on the female sexual function. Using pills or injectable containing progestin only had a negative impact on FSF; Depoprovira injection had the worst impact, of all used contraceptive methods, on FSF.

More researches are required with larger sample size to determine the most effective contraception with the least impact on female sexual function .

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