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The impact of oral contraception with ethinyl estradiol and chlormadinone acetate on sexual function of women

G. Jarząbek-Bielecka[1], R. Słopień[2], A. Słopień[3], M. Pisarska-Krawczyk[4,6], W. Kędzia[1], M. Wilczak[4,5]

[1]Unit of Developmental Age Gynecology and Sexology, Division of Gynecology, Department of Perinatology and Gynecology; [2]Department of Gynecological Endocrinology; [3]Department of Child and Adolescent Psychiatry; [4]Department of Maternal and Child Health; [5]Department of Medical Education, Poznań University of Medical Sciences, Poznań

[6]President Stanisław Wojciechowski Vocational State School, Kalisz (Poland)

Summary

Hormonal contraception influences various areas of female health and behavior. The study group included 41 women aged 18-25 (mean age 22.2 ± 3.4) years who used oral contraception with 3 mg of ethinyl estradiol and 2 mg of chlormadinone acetate for six months. The mean body mass index (BMI) of women from the study group was 23. 5 ± 2.3 kg/m^2. The exclusion criteria from the study group where contraindications for hormonal contraception (liver disease, porphyria, thrombosis, hormonally dependent cancer, and migraine). The control group included 31 women aged 18-25 (mean age 21.6 ± 2.4) years who did not use hormonal contraception. The mean BMI of controls was 22.4 ± 1.7 kg/m^2. Both the age and the BMI of controls were no statistically different from the study group. The sexual function of the studied women was assessed with the use of Female Sexual Function Index (FSFI). FSFI is a multidimensional self-reporting tool for the assessment of female sexual function. It consists of six domains: desire, arousal, lubrication, orgasm, satisfaction, and pain (with 19 items). There were no statistically relevant differences between the study group and the controls in relations to the FSFI parameters. There is no impact of oral contraception with 3 mg of ethinyl estradiol and 2 mg of chlormadinone acetate on sexual function of users.

Key words: Contraception; Sexual function; Desire.

Introduction

Hormonal contraception influences various areas of female health and behavior. Data regarding its impact on the sexual function are scarce and conflicting. Some studies report a positive influence of hormonal contraception on sexual function [1-3] while others report a negative effect of hormonal contraception on sexual function [4-6].

The aim of the study was to evaluate the possible impact of oral contraception with 3 mg of ethinyl estradiol and 2 mg of chlormadinone acetate on sexual function of women evaluated with Female Sexual Function Index (FFSI) [7].

Materials and Methods

The study group were 41 women aged 18-25 (mean age 22.2 ± 3.4) years who used oral contraception with 3 mg of ethinyl estradiol and 2 mg of chlormadinone acetate for six months. The mean body mass index (BMI) of women from the study group was 23.5 ± 2.3kg/m^2. The exclusion criteria from the study group where contraindications for hormonal contraception (liver disease, porphyria, thrombosis, hormonally dependent cancer, and migraine). The control group were 31 women aged 18-25 (mean age 21.6 ± 2.4) years who did not use hormonal contraception. The mean BMI of controls was 22.4 ± 1.7 kg/m^2. Both the age and the BMI of controls were no statistically different from the study group.

The sexual function of the studied women was assessed with the use of FSFI [7]. FSFI is a multidimensional self-reporting tool for the assessment of female sexual function. It consists of six domains: desire, arousal, lubrication, orgasm, satisfaction, and pain (with 19 items).

In the statistical analysis the authors used Mann-Whitney test to assess the differences between the study and the control group because of abnormal distribution of data. The analysis was performed with the use of Statistica 10 PL software and $p < 0.05$ was reported to be statistically relevant.

Results

The values of the FSFI parameters in the study group and the control group are presented in the Table I. There were no statistically relevant differences between the study group and the controls in relation to the FSFI parameters.

Discussion

Results of previous studies regarding the influence of oral contraception on sexual function are conflicting. Some studies reported higher frequency of sexual intercourse, increased frequency, and intensity of orgasms in oral contraception users [1-3]. Oddens reported a positive effect on sexual activity in 44% of oral contraception users in com-

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Table I. — *The values of the FSFI parameters in the study and control groups.*

FSFI	Study group		Control group		Mann-Whitney test	
	Mean ± SD	Median	Mean ± SD	Median	Z	*p*
Desire	4.3 ± 1.3	4.8	4.3 ± 1.0	4.2	0.501	0.616
Arousal	4.6 ± 1.4	4.8	4.9 ± 0.8	5.1	0.326	0.744
Lubrication	4.9 ± 1.5	5.4	4.8 ± 1.1	5.1	0.983	0.325
Orgasm	4.6 ± 1.6	5.2	4.4 ± 1.1	4.8	1.890	0.058
Satisfaction	4.6 ± 1.6	5.2	5.0 ± 1.0	5.2	0.369	0.711
Pain	4.6 ± 1.6	4.8	4.6 ± 1.8	5.2	0.312	0.755
Total	27.6 ± 7.3	29.3	27.9 ± 4.3	29.0	0.586	0.558

parison to 11%, 28%, and 36% of users of respectively, condoms, natural methods, and intrauterine device [3]. The suggested mechanism of positive effect of oral contraception on sexual function is psychological safety reassurance from use of a very effective contraceptive method [8].

Other studies reported decrease of libido and lower frequency of sexual activity in oral contraception users [4- 6]. The negative effect of oral contraception on the sexual function is temporary and last as long as the oral contraceptive administration [4]. The suggested mechanisms are: hypoestrogenism, progesterone action, and hypoandrogenism [9, 10]. Hypoestrogenism due to reduction of ethinyl estradiol content in the contraceptive pills causes vaginal dryness [9]. Progesterone and its derivates inhibit sexual activity [10]. Hypoandrogenism caused by increase of sex hormone binding globuline (SHBG) due to ethinyl estradiol administration is a reason of lack of libido [9, 11].

Oral contraceptive used in this study contained a low dose of ethinyl estradiol and chlormadinone acetate. Apart of previously reported possible causes of sexual function inhibition (hypoestrogenism, progesterone action, and hypoandrogenism), this formula contains antiandrogenic progestin, which at least from theoretical point of view, can inhibit sexual function even more than other progestins. The present data does not support these thesis.

Conclusion

There is no impact of oral contraception with 3 mg of ethinyl estradiol and 2 mg of chlormadinone acetate on sexual function of users.

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Corresponding Author:
R. SŁOPIEŃ, M.D.
Klinika Endokrynologii Ginekologicznej
Ul. Polna 33
60-535 Poznań (Poland)
email: asrs@wp.pl