WOMEN'S ATTITUDE ON ORAL CONTRACEPTIVE DRUGS, ADVERSE REACTIONS AND THEIR INTERACTIONS

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Abstract

Combined oral contraceptives (COCs) should be available to every woman who has decided to use after proper counseling, provided they do not have an important contraindication for use. COCs may be particularly suitable for women who want to use hormonal contraception Combined oral contraceptives are divided in their turn combined monophasic contraceptive, that all tablets have the same composition hormonal (estrogen and progestin) and three-phase combined contraceptive. As a basic principle must be an estrogen (Ethinyl estradiol) and a progestogen (dienogest, desogestrel etc) that were dosed at different concentrations. Oral contraceptives with progestagen-only differ in several important aspects of combined oral contraceptives. To prevent pregnancy, women who use contraceptive with progestagen-only taken every day without interruption, a pill. Oral contraceptives only with progestagen are the best oral contraceptive for breastfeeding women. They do not seem to reduce the secretion of breast milk. Not containing estrogen hormones, progestogen pill can be used by persons to whom estrogen is contraindicated.

Key words: combined oral contraceptives, adverse reactions, interactions

INTRODUCTION

The main mechanism action of all progestagen-containing contraceptives is inhibition of sperm penetration through the cervix into the upper genital tract (uterus and fallopian tubes) by reducing water content and increasing the viscosity of cervical mucus (Bennet & Pope, 2009, Brian, 1999, Goldzieher, 1982, Pincus & Garcia, 1958, Haam et al, 2004).

Combined oral contraceptive (COC) estrogen and progesterone had other effects on the reproductive system, but they have not been shown to contribute to their contraceptive efficacy. Contraceptive efficacy can be affected by both changes in pharmacokinetics and pharmacodynamics hormonal contraceptives. Pharmacokinetic interactions occur when a drug after absorption, distribution, metabolism or excretion of drug substance, increases or decreases in serum and implicitly its effects (Bloemenkamp et al, 1995, Dinger et al, 2007, Sheldon , 2002).

Drugs that reduce the absorption, distribution, metabolism or excretion of hormones may affect their bioavailability and effectiveness of contraceptives. Pharmacodynamic interactions occur when a drug directly influence clinical actions of another drug synergism or antagonism (Tchaikovski et al, 2007, Rosenberg et al, 1998, Vasilakis-Scaramozza & Jick, 2001, www.drugs.com).

MATERIAL AND METHOD

Bioavailability represents fraction administered drug that reaches the systemic circulation and is influenced by both the route of administration and the chemical and physical properties of the substance used

The group studied was represented by 150 women aged between 20 and 45 years constituted on a voluntary basis sample. The women were asked to complete a questionnaire in pharmacies and an interview guide without his identity being know. Women availability rate of questionnaires was 84.5% meaning a total of 150 women. Thereafter the sample was divided into three age groups: 20-25 years, 25-30 years and 35-45 years, in order to compare certain aspects related to the use of contraceptives.

All participants received a questionnaire about contraceptives and how to use an interview guide.

The questionnaire aims beliefs about contraception, and participants are asked to tick the answer that suits them (Table 1). The interview guide covers issues related to educational level, socioeconomic status, residence, history of chronic diseases, consumption of medications, allergies, use of birth control pills after advice or as self-medication, etc.

Table 1.

Below is a series of statements. Tick an "X" the answer of your choice					
No.	Category	Item	Yes	No	Don't Know
1		Contraceptives fat.			
2		Contraceptives cause cardiac arrest.			
3	Side effects	Contraceptives cause cancer.			
4		Extended use of contraceptives causes infertility.			
5		Contraceptives enhance breasts.			
6		Contraceptives causes venous thrombosis.			

Questionnaire on how to use contraceptives

statements.	Tick an	"X"	the	answer of vour choice	

1		Contraceptives reduce menstrual pain.		
2		Contraceptives prevent ovarian cancers, breast.		
3	The benefits	Apart contraceptive use prevents ovarian cysts.		
4		Correct use of birth control pills leads to cycle regulation.		
5		The proper use of contraceptives ensures prevention of unwanted pregnancies		
1	Education Contraceptives can be used without medical advice.			
2	Any doctor can prescribe contraceptives without prior analysis.			
3	Contraceptives can be taken on the recommendation pharmacist.			
4		The use of contraceptives should be made periodic breaks.		
5		The doctor should be informed about existing illnesses before using contraceptives.		

RESULTS AND DISCUSSIONS

Results obtained from the questionnaire on the group studied 150 women are presented below (Table 2 and Table 3).

Table 2.

No.	Age group	Averages percentages (%)	Standard deviation
1	Women aged between 20-25 years	18,25	3,16
2	Women aged between 25-35 years	31,57	6,30
3	Women aged between 35-45 years	50,18	11,19

The significance of differences by age group averages



Fig 1. Group ages averages percentages (%)

It was revealed after our study regarding the use of contraceptives according to age group, there are significant differences between the groups as follows: of the three age groups most concerned with the use of contraceptives are women aged between 35-45 years, followed by women in the age group 25-35 years), those over 20 years pointing out waiver of pills in order procreation

In present there is a wide range of contraceptive methods from which the most convenient and widely used oral contraceptives. To obtain performance in medication birth control in pharmaceutical and the condition is a partnership between pharmacist-medical specialist and patient (Dinger et al, 2007, Parkin et al, 2000, Osser et al, 2012).

Regarding the long-term use of oral contraceptives may be accompanied by emergence of various problems, but this happens only in a few cases, especially when taking birth control was not correlated with medical advice gynecologist, from a health professional, with the emergence of diseases over time, or other situations that require the surrender of pill or other methods of contraception choosing less invasive to the body.

Women in the age group 20-25 years experimenting in a lower percentage by the use of contraceptives following side effects: CNS disorders (migraine, decreased libido, etc.), gastrointestinal disorders (nausea, vomiting, abdominal pain), hypersensitivity reactions.

For women in the age group 25-35 years were found in a high percentage of the following side effects: CNS disorders (migraine, decreased libido), thromboembolism, gastrointestinal disturbances (nausea, vomiting, abdominal pain), hepatic disorders. Women in the age group 35-45 years, reveals a large percentage of the following side effects: thromboembolism, hypertension, gastrointestinal disorders, cardiovascular disease, hepatic disorders. One of the side effects was detected by the appearance of hypertension is increasing on average by 5-7 mmHg values in

women with other associated diseases such as dyslipidemia, diabetes, obesity (Vasilakis-Scaramozza & Jick, 2001, Edwards et Aronson, 2000).

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Distribution of side effects				
Age group (years)	Side effects	Percentages (%)		
	CNS disorders,	43		
20.25	gastrointestinal disorders,	27		
20-23	hypersensitivity reactions	18		
	others	12		
	CNS disorders,	32		
	thromboembolism,	21		
25-35	gastrointestinal disorders,	23		
	hepatic disorders	17		
	others	7		
	thromboembolism,	34		
	arterial hypertension,	14		
25.45	gastrointestinal disorders,	21		
55-45	cardiovascular disease,	17		
	hepatic disorders	10		
	others	4		

others 4

The increase becomes older and the number of days of use of contraceptives, the adverse reactions are diversifying and multiplying.

To limit the adverse reactions that may occur due to the use of contraceptives, their use requires that occur as a result of clinical investigations / laboratory and specialist recommendation.

CONCLUSIONS

The study revealed the existence of an interest contraceptive pills acted mainly in urban women (72.3%) in the rural areas there is interest in them (27.7%), but it is not concretized in practice, especially because of the stigma of shame that would face going to the local pharmacy to buy them.

It is very important that before using birth control, women to come to see a specialist, such as a physician to make appropriate recommendations based on test results.

After analyzing the study number two, it is noted that sales of contraceptives in urban areas are much higher than sales of contraceptives in rural areas.

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REFERENCES

1. Bloemenkamp KWM, Rosendaal FR, Helmerhorst FM, Büller HR, Vandenbroucke JP., 1995, Enhancement by factor V Leiden mutation of risk of deep-vein thrombosis associated with oral contraceptives containing a third-generation progestagen.Lancet, vol 346:1593-1596.

2. Dinger JC, Heinemann LAJ, Kuhl-Habich D., 2007, The safety of a drospirenonecontaining oral contraceptive: final results from the European Active Surveillance Study on oral contraceptives based on 142,475 women-years of observation.Contraception, vol 75:344-3454.

3. Edwards R., Aronson J.K., 2000, Adverse drug reactions: definitions, diagnosis, and management, The Lancet, vol 356(9237):1255–1259.

4. Jick H, Jick SS, Gurewich V, Wald Myers M, Vasilakis C., 1995, Risk of idiopathic cardiovascular death and nonfatal venous thromboembolism in women using oral contraceptives with differing progestagen components. Lancet, vol 346:1589-1593.

5. Kemmeren JM, Algra A, Grobbee DE. 2001, Third generation oral contraceptives and risk of venous thrombosis: meta-analysis, BMJ, vol 323:131-134.

6. Meyer JM, Rodvold KA. 1996, *Drug biotransformation by the cytochrome P-450 enzyme system*, Editura Infect Med, 45-78.

7. Osser G, Orodan M., Morgovan C., Atyim P., Toadere A., Popescu M.I., 2012, The study means of locating a narrowing arterial aneurysm in preventing myocardial infarction, Studia Universitatis - Seria Stiintele Vietii Arad, vol 22(1): 55-59.

8. Parkin L, Skegg DCG, Wilson M, Herbison GP, Paul C., 2000, Oral contraceptives and fatal pulmonary embolism.Lancet, vol 355:2133-2134.

9. Rosenberg M.J., Waugh M.S., Burnhill M.S., 1998, Compliance, Counseling and Satisfaction with Oral Contraceptives: A Prospective Evaluation, *Family Planning Perspectives*, Vol. 30(2):89-92.

10. Seeger JD, Loughlin J, Eng PM, Clifford CR, Cutone J, Walker AM., 2007, Risk of thromboembolism in women taking ethinylestradiol/drospirenone and other oral contraceptives, Obstet Gynecol, vol 110:587-593.

11. Sheldon T., 2002, Dutch GPs warned against new contraceptive pill, vol 324:869.

12. Speroff L., Darney P., 2011, A Clinical Guide For Contraception, Ed Lipincott Williams and Wilkins, 145-223.

13. Tchaikovski SN, van Vliet HAAM, Thomassen MCLGD, Bertina RM, Rosendaal FR, Morten Sandset P, 2007, Effect of oral contraceptives on thrombin generation measured via calibrated automated thrombography, Thromb Haemost, vol 98:1350-1356.

14. Van Buuren S., 2007, Multiple imputation of discrete and continuous data by fully conditional specification, Stat Methods Med Res, vol 16:219-242.

15. Van Vliet HAAM, Winkel TA, Noort I, Rosing J, Rosendaal FR., 2004, Prothrombotic changes in users of combined oral contraceptives containing drospirenone and cyproterone acetate. J Thromb Haemost, vol 2:2060-2062.

16. Vasilakis-Scaramozza C, Jick H., 2001, Risk of venous thromboembolism with cyproterone or levonorgestrel contraceptives, Lancet, vol 358:1427-1429.

19. ***World Health Organization Collaborative Study of Cardiovascular Disease and Steroid Hormone Contraception. Venous thromboembolic disease and combined oral contraceptives: results of international multicentre case-control study, 1995, Lancet, vol 346:1575-1582.

20. http://www.drugs.com/drug_interactions.html

21. http://www.anm.ro