

## STUDY OF THE ORAL CONTRACEPTIVES' USE BY WOMEN FROM WESTERN ROMANIA

IOANA CUC HEPICAL<sup>1#</sup>, CLAUDIA CRINA TOMA<sup>1#</sup>, NELI OLAH<sup>1\*</sup>, CRISTINA DEHELEAN<sup>2</sup>, ANDREI MOTOC<sup>2</sup>, SIMONA ARDELEAN<sup>1</sup>, SIMONA CONEA<sup>1</sup>, CLAUDIU MORGOVAN<sup>1</sup>

<sup>1</sup>"Vasile Goldiș" Western University of Arad, Faculty of Medicine, Pharmacy and Dentistry, Department of Pharmaceutical Science, 86 Rebreanu Street, Arad, Romania

<sup>2</sup>"Victor Babeș" University of Medicine and Pharmacy, 2 Eftimie Murgu Street, Timișoara, Romania

\*corresponding author: olahdr@aol.com

#The first two authors contributed equally to this work.

Manuscript received: July 2014

### Abstract

Through the prevention of unintended pregnancy, the contraception can improve the women's health and the social and economic well-being of their families. On the other hand, the contraceptives lead to reducing the birth rate, which becomes more and more pronounced, in Romania. They also have a lot of side effects, especially when are used without prescription. The aim of this study was to identify the role of the internal and external factors in the use or misuse of oral contraceptives. Results have shown the correlation of the factors with the appearance of some side effects or the aggravation of existing ones, some of them having a decisive role in giving up contraceptives. Based on the obtained results, it is needed to initiate adequate measures to minimize side effects and prevent people from renouncing to the use of contraceptives.

### Rezumat

Prin prevenirea unei sarcini neintenționate, contracepția îmbunătățește starea de sănătate a femeilor, precum și nivelul socio-economic al familiei acestora. Pe de altă parte, contraceptivele contribuie la scăderea natalității, care devine tot mai accentuată în România. De asemenea, ele pot determina apariția unor efecte secundare, în special în situația în care sunt administrate fără recomandare medicală. Scopul acestui studiu este de a identifica rolul factorilor care intervin în utilizarea corectă sau incorectă a contraceptivelor orale. Rezultatele au demonstrat o corelare a factorilor cu apariția unor efecte secundare sau agravarea celor existente; o serie de factori având rol decisiv în renunțarea la contraceptive. Pe baza rezultatelor obținute, se dorește inițierea unor măsuri adecvate pentru minimizarea efectelor secundare și pentru a preveni renunțarea la contraceptive.

**Keywords:** oral contraceptives, birth control, side effects, women attitudes

### Introduction

The concept of contraception represents a multitude of methods that ensure birth control. Its purpose is to satisfy the partners' sexual needs without fear of an unwanted pregnancy. There have been attempts of contraception even from ancient times, but especially attempts of avoiding unwanted pregnancies. The history of contraception reveals important information regarding the discovery of certain substances and mechanisms used for this purpose [4, 8, 10, 11].

At the mid-20<sup>th</sup> century, the pharmaceutical market was set for the development of the hormonal contraceptive, but there was no particular interest from the pharmaceutical companies and universities for further research in this area [13, 14].

The results of different studies have shown a continuous increasing of the number of medicinal products, on the Romanian market, as well as on the global market, which is similar also for contraceptives [6, 12].

In the developing countries, in 2012, there were 1.520 million women at the reproductive age. About 57% (867 million) wanted to avoid pregnancy and therefore needed contraception [3].

A study conducted by the PSI (Population Services Romania) organization shows that the pill is the second preferred contraceptive by Romanian women, with a percentage of 26%, the condom ranking first, with a percentage of 52%. The study shows that, whilst getting older, people choose the pill more often and less frequently the condoms [1]. Since there is no clear explanation of the great incidence of abortions in Romania where there is a wide array of contraceptives available, a focused study was attempted to identifying the internal and socio-economic factors which determine the misuse of contraceptives, especially of the oral ones. As far as the internal factors are concerned, they may be organic, which regard the possible diagnosed chronic diseases in women, preventing the use of oral contraceptives, or psychical: prejudices, anxiety

etc. The socio-economic factors include: the level of education, the area of residence, the social and economic status and the religious belonging.

The work hypothesis refers to the existence of significant differences between women in the use of contraceptives, depending on the socio-economic factors (age group, residence area, marital status, level of education, social and economic conditions, the existence of children, the use of other contraceptive method) as well as to the existence of significant differences in the use of contraceptives, depending on the benefits, the importance of using them when faced with pre-existing health issues.

### Materials and Methods

The study was carried out on a group of 153 women with ages between 18 and 45 years. The study was performed on volunteers between 1<sup>st</sup> August and 30<sup>th</sup> September 2013. 184 women were asked, in pharmacies of some Counties from Western Romania, to fill out a questionnaire and a structured interview guide, without divulging their identity. The women's availability rate regarding the filling out of the questionnaires was 83%,

meaning a total of 153 women ( $n = 153$ ). Subsequently, the study group was divided into three age groups, 18-25 years, 26-35 years and 36-45 years, in order to compare some aspects on the use of contraceptives.

All participants received and filled out a questionnaire on the use of contraceptives and an interview guide. The questionnaire assessed the beliefs and ideas regarding contraception and participants were asked to select the answer that best suited them. The interview guide contained aspects related to the religious views, the level of education, the socio-economic status, the residence area, history of chronic diseases, consumption of medications, allergies, use of birth control pills at the doctor's recommendation or as self-medication etc. Because, all patients have the right to privacy [2], all collected data were confidential.

The "SPSS" statistical program was used for the processing of the quantitative data.

#### *Questionnaire - Beliefs/attitudes regarding the use of contraceptives*

Below there are presented the questions. Please mark your answer with an "X".

| Field                   | Item                                                                                                                   | Yes | No | I don't know |
|-------------------------|------------------------------------------------------------------------------------------------------------------------|-----|----|--------------|
| Side effects            | Contraceptives fatten.                                                                                                 |     |    |              |
|                         | Contraceptives cause heart diseases.                                                                                   |     |    |              |
|                         | Contraceptives cause cancer.                                                                                           |     |    |              |
|                         | The prolonged use of contraceptives leads to infertility.                                                              |     |    |              |
|                         | Contraceptives enlarge the breasts.                                                                                    |     |    |              |
| Benefits of their usage | Contraceptives reduce the menstrual pains.                                                                             |     |    |              |
|                         | Contraceptives prevent certain forms of ovarian and breast cancer.                                                     |     |    |              |
|                         | The use of contraceptives prevents ovarian cysts.                                                                      |     |    |              |
|                         | The proper use of birth control pills leads to the regulation of the menstrual cycle.                                  |     |    |              |
|                         | The proper use of contraceptives prevents unwanted pregnancies.                                                        |     |    |              |
| Education               | Contraceptives can be used without consulting a doctor.                                                                |     |    |              |
|                         | Any doctor can prescribe contraceptives without prior tests being conducted.                                           |     |    |              |
|                         | Contraceptives can be taken based on the pharmacist's recommendation.                                                  |     |    |              |
|                         | Periodical breaks should be taken when using contraceptives.                                                           |     |    |              |
|                         | The doctor should be informed about any existing medical conditions of the patient before recommending contraceptives. |     |    |              |

The interview guide was designed to have several sections: **(1) Personal data:** name and surname initials; telephone number (optional); age group: 18-25, 26-35, 36-45; profession; occupation; nationality, religion (orthodox, catholic, baptist, pentecostal, other); residence area: rural, urban; marital status: married, single, divorced, living in a couple; level of studies: primary level, secondary level, high school level, vocational school, college, university;

socio-economic conditions: minimal income, average income, above average income; **(2) State of health:** chronic diseases: cardiovascular, pulmonary, diabetes, hepatitis, gastro-intestinal, joint related, gynaecological, endocrine; neuropsychiatric diseases: depression, anxiety, panic attacks, schizophrenia and other psychotic disorders; good state of health; Consumption of: alcohol, tobacco, medications, contraceptives, other substances; Allergies: to

medication, natural substances, chemical and body-care products; Children: yes, no, pregnant; Abortions: spontaneous, requested; No. of abortions: one, several, ectopic pregnancy, none.

**(3) The use of contraceptives:** type (oral: monophasic, tri-phasic; local: skins, eggs, diaphragms, condoms, intrauterine devices - IUD); Who suggested you to use contraceptives: the general practitioner, a specialist, another doctor (please specify who), a pharmacist, a friend, based on what you have read in magazines/ on the internet, other; Before using contraceptives you performed: general tests, specific tests, did not perform any tests; Do/Did you have any side effects such as: nausea or vomiting, intermenstrual vaginal bleeds, headaches/migraines, weight changes, other symptoms (please specify); Please mention the benefits offered to you

by the use of contraceptives: regulation of the menstrual cycle, prevention of pregnancy, other benefits; What is the way in which you would recommend to other women to use contraceptives: you would recommend them what you are using, you would advise them to see a doctor, you would advise them to ask the pharmacist; How many years has it been since you started using contraceptives (and did you have periods when you did not take any): 1-5 years; 6-10 years; 11-15 years; over 15 years.

## Results and Discussion

The results obtained after applying the questionnaire and the interview guide, on a study group of 153 women, are shown below.

**Table I**

The significance of the means' differences by age groups

| Group | Age group              | Mean age (years) | Standard deviation | N        |
|-------|------------------------|------------------|--------------------|----------|
| 1     | Women aged 18-25 years | 20.35            | ± 4.66             | 53 (35%) |
| 2     | Women aged 26-35 years | 29.75            | ± 7.73             | 51 (33%) |
| 3     | Women ages 36-45 years | 41.40            | ± 8.39             | 49 (32%) |

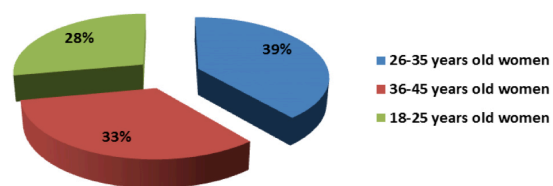
Table I shows the structure of the studied group taken into consideration i.e. the number, average age and standard deviation for each age group.

The study showed the existence of a real interest for the contraceptive pills, especially in the case of women from urban areas (63%, n = 96), those from the rural area also being interested in them (37%, n = 57), but it is not translated into practice, particularly because of the shame that they could be faced in pharmacies when they wish to buy them.

Regarding the contraceptives' use according to the age group, it has been found that there are significant differences between groups, as follows: from the three age groups, the 26-35 years old women (33%, n = 51) are the most preoccupied with the use of contraceptives, followed by the 18-25 years old women (35%, n = 53); in the case of those over 35 years old it was observed a decreased level of interest for the oral contraception (32%, n = 49).

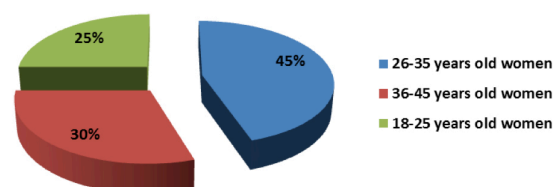
Also, out of 96 women from the urban area (Figure 1), the majority of consumers are women from the 26-35 years old age group (39%, n = 37), followed by the 36-45 years old age group (33%, n = 32) and by the ones from the 18-25 years old age group (28%, n = 27).

In the rural area (Figure 2) we noticed that out of a total of 57 women, those from the 18-25 years old age group (45%, n = 26) are the largest group of consumers of contraceptives, followed by the ones from the 36-45 years old age group (30%, n = 17) and finally by those aged 26-35 years old (25%, n = 14).



**Figure 1.**

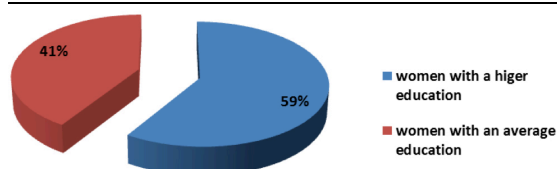
The differences regarding the women's use of contraceptives, in the urban area by age groups (n = 96)



**Figure 2.**

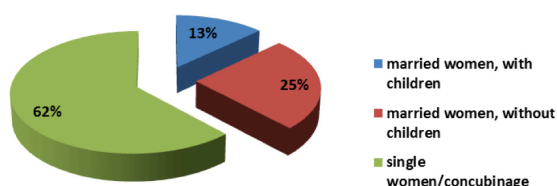
The differences regarding the women's use of contraceptives, in the rural area by age groups (n = 57)

The women with college education (59%, n = 90) are the ones that most often use birth control pills on the doctor's recommendation and advise their friends to see a specialist before using contraceptive pills, whilst married women and young women living in a couple, with medium level education (41%, n = 63) rely more on the partner's protection, the fear of the medicines seriously affecting the liver being a deterrent in their case (Figure 3).

**Figure 3.**

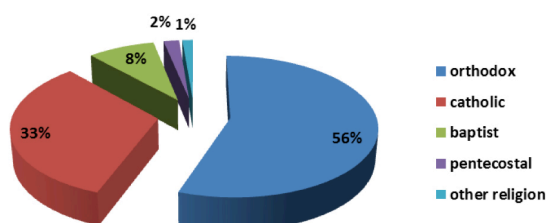
The differences regarding women's use of contraceptives, depending on their education level (n = 153)

Married women, with children, have the tendency to use other types of birth control methods, usually with long-term effects (the IUD) so that 13% (n = 20) mentioned the use of contraceptive pills, unlike the married ones without children, who use them at a 25% rate (n = 38), their priority being to procreate, and the ones that are not married or live in a couple use contraceptives in a very large proportion, 62% (n = 95), regardless of their age (Figure 4).

**Figure 4.**

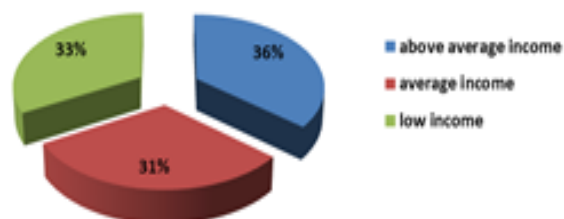
The differences regarding women's use of contraceptives, by marital status (n = 153)

The study shows that there are differences between oral contraceptives' use, according to their religion (Figure 5): 56% were Orthodox, 33% were Catholic, 8% were Baptists, 2% were Pentecostal and 1% of the women had other religion. The Baptist and Pentecostal women specified that no member of their family knows about the use of contraceptives.

**Figure 5.**

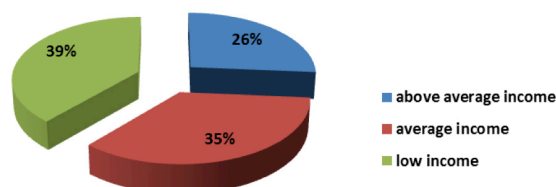
The differences regarding women's use of contraceptives, depending on their religion (n = 153)  
The hypothesis on the existence of differences regarding women's use of contraceptives, depending on their socio-economic conditions and, more specifically, their monthly income, has shown that, even though they exist, differences are not very important. In the whole group there were

small differences regarding the use of contraceptives, the women with above average monthly incomes (> 700 EUR) taking in 32% (n = 49), the ones with average incomes (400 - 700 EUR) 33% (n = 50) and the women with low incomes (< 400 EUR) 35% (n = 54). It has been found that, in the urban areas (Figure 6), women with incomes above the average, allocate the greatest importance to the use of contraceptives (n = 34, 36%), followed by those with low incomes (n = 32, 33%) and the women with average incomes (n = 30, 31%).

**Figure 6.**

The differences regarding the women's use of contraceptives, in the urban area, by income (n = 96)

In rural areas (Figure 7), the women that allocate the greatest importance to the use of contraceptives are the ones with low incomes (n = 22, 39%), followed by the ones with average incomes (n = 20, 35%) and those with above average incomes (n = 15, 26%).

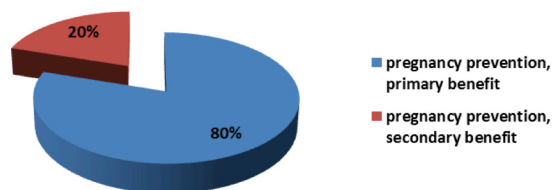
**Figure 7.**

The differences regarding the women's use of contraceptives, in the rural area, by income (n = 57)

Regarding the benefits of using contraceptives, 37% (n = 57) of the women who reported especially gynaecological health problems, such as ovarian cysts, yeast infections, which did not represent a considerable threat or cause significant discomfort, claimed improvements such as remission of the cysts, pains, menstrual cycle regulation, 41% (n = 63) of women reported a gastrointestinal discomfort and 22% (n = 33) of the questioned women did not show any kind of discomfort.

80% of the women mentioned the prevention of the pregnancy as the most important benefit of using contraceptives and the regulation of the menstrual cycle and the disappearance of the pains as a secondary benefit; 20% mentioned as the most important benefit the improvement or resolution of

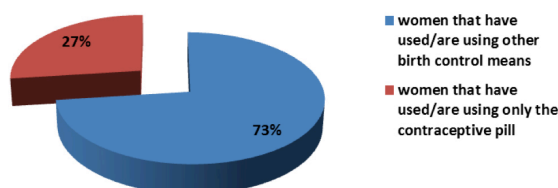
some gynaecological problems and just as a secondary benefit the prevention of a pregnancy (Figure 8).



**Figure 8.**

The differences regarding the women's use of contraceptives, by their main action –preventing pregnancy (n = 153)

As far as using other birth control methods, besides contraceptives, results have shown that 73% (n = 112) of the investigated women have used or are still using other birth control methods, simultaneously with the contraceptives, or during the periods when they stopped taking the former; 27% (n = 41) of the women said that they have never used other birth control methods aside from contraceptive pills (Figure 9).



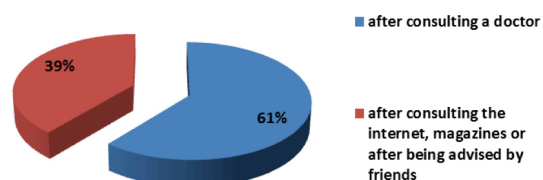
**Figure 9.**

The differences regarding the women's use of contraceptives, depending on the use of other birth control means (n = 153)

About 35% (n = 53) of the women from the 18-25 years old age group experienced, as a result of using contraceptives, the following side effects: CNS disorders (headaches, decreased *libido*, etc.), gastrointestinal disorders (nausea, vomiting, abdominal pain), hypersensitivity reactions. 33% (n = 51) of the women from the 26-35 years old age group experienced the following side effects: CNS disorders (migraines, decreased *libido*), thromboembolism, gastrointestinal disorders (nausea, vomiting, abdominal pain), hepatic disorders. 32% (n = 49) of the women from the 36-45 years old age group experienced the following side effects: thromboembolism, hypertension, gastrointestinal disorders, cardiovascular diseases, hepatic disorders. In order to limit the side effects that might occur due to the use of contraceptives, their use must be recommended by specialists, after conducting a series of clinical/para-clinical tests.

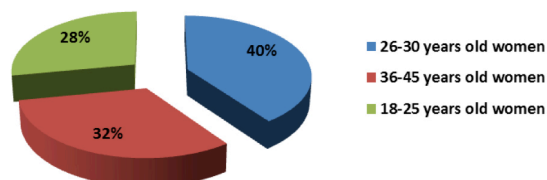
Regarding the use of contraceptives on the recommendation of a specialist, 61% (n = 93) of the

women use them after consulting a specialized doctor and 39% (n = 60) of the women take them after consulting the internet, magazines, based on their friends' advice (Figure 10). It was found that of the 60 women (39%) that use contraceptives on the recommendation of unauthorized people or after consulting the internet or magazines, 17 (28%) belong to the 36-45 years old age group, 19 (32%) belong to the 26-35 years old age group and 24 (40%) belong to the 18-25 years old age group (Figure 11).



**Figure 10.**

The differences regarding the women's use of contraceptives, by recommendation (n = 153)



**Figure 11.**

The differences regarding the women's use of contraceptives, without consulting a specialist, by age groups (n = 60)

Regarding the long-term use of oral contraceptives, it may be associated with the emergence of various problems, but this situation occurred only in a small number of cases, especially when the administration of the contraceptives was not endorsed by the gynaecologist, after a consultation, with the apparition of some diseases over time, or other situations that might require giving up the contraceptives or choosing other birth control methods, that are less invasive to the body [5, 7, 9, 10]. Many women pay the price of their ignorance, by using contraceptive pills without the doctor's recommendation and only based on their friends' recommendations or after consulting the internet. These are the reasons why multiple discomfort manifestations of the body emerge in these cases which, over time, generate false beliefs such as the one claiming that contraceptive pills favour weight gain, lead to infertility, cause malformations to future foetuses, cause cardiac diseases etc. These misconceptions can be avoided only by initiating programs to correctly inform people on the benefits and risks of using oral contraceptives; correct information is usually followed by their correct use.

Periodical free (or with a small fee) counselling can be organized for this purpose in the specialized private practices, especially in the private clinics interested in retaining a large number of patients and therefore have a greater availability for this type of actions.

### Conclusions

The results show positive aspects of the usage of contraceptives. Despite a predominantly low standard of living, it seems that the number of women using contraceptives has increased, due to the fact that they are focusing mainly on their benefits: pregnancy prevention, the resolution of certain health issues.

What still remains as a negative aspect is the way in which women start using contraceptives, following the advice of unauthorized people and without conducting any tests beforehand. Nowadays, because of the development in science there can be evaluated more accurately the possible side effects of the medicines. Due to by the side effects of oral contraceptives a lot of them have been lately withdrawn from the market.

This fact is a powerful argument not to use the oral contraceptives as self-medication, but for these women must be informed properly, regardless of their socio-economic status, religion, residence area, and level of study, occupation, marital status or any other factor.

The existence of a health system that would cover the expenses for these tests would certainly further change the situation.

### References

1. Buist D., Newton K., Miglioretti D., Beverly K., Connely M., Andrade S., Hartsfield C., Wei F., Hormone Therapy Prescribing Patterns in the United States. *Obstetrics and Gynecology*, 2004; 104(5): 1042-1050.
2. Crişan O., Iacob S., Patients' rights in pharmacy legislation. *Farmacia*, 2014; 62(3): 444-450.
3. Darroch J., Singh S., Trends in contraceptive need and use in developing countries in 2003, 2008, and 2012: an analysis of national surveys. *The Lancet*, 2013; 381(9879): 1756-1762.
4. Frost J.J., Duberstein Lindberg L., Finer L.B., Young Adults' Contraceptive Knowledge, Norms and Attitudes: Associations with Risk Of Unintended Pregnancy. *Perspectives on Sexual Reproductive Health*, 2012; 44(2): 107-116.
5. Galbraith A., Bullock S., Manias E., Hunt B., Richards A., Fundamentals of Pharmacology: An Applied Approach for Nursing and health. United Kingdom: Pearson Education LTD, 2007: 852-1035.
6. Greene D., Hulett D., Bradsberry M., Philip D., Number of oral contraceptive pill packages dispensed and subsequent unintended pregnancies. *Obstetrics & Gynecology*, 2011; 117(3): 566-572.
7. Guillebaud J., MacGregor A., The Pill and other forms of Hormonal Contraception, Oxford University Press, 2009: 82-132.
8. Guillebaud J., Contraception, 6<sup>th</sup> ed., Churchill Livingston Elsevier, 2012: 56-124.
9. Guillebaud J., Homburg R., McVeigh E., Oxford Handbook of Reproductive Medicine and Family Planning, Oxford University Press, 2008: 211-356.
10. Junod S.W., Marks L., Woman's Trials: The Approval of the First Oral Contraceptive Pill in the United States and Great Britain. *Hist. Med. Allied Science*, 2002; 57(2): 117-160.
11. Speroff L., Darney P., A Clinical Guide For Contraception. *Lipincott Williams and Wilkins*, 2011; 1-25: 153-167.
12. Täerel A.E., Soroceanu V., Rais C., Trends in the evolution of the annual classified list of medicines between 1989-2012. *Farmacia*, 2013; 61(5): 948-956.
13. Trussel J., Cleland K., Emergency Contraceptive Pills Worldwide, Princeton University, 2007: 3-4.
14. Watkins E., Siegel E., On the Pill: A Social History of Oral Contraceptions, 1950-1970, Baltimore: John Hopkins University Press, 1998, 5-88.