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Health benefits of hormonal contraception used by symptoms associated with acne vulgaris and hirsutism

**Anna Sobstyl¹, Zuzanna Chilimoniuk¹, Aleksandra Chałupnik²,
Magdalena Łakota-Sipa³, Maciej Dobosz², Aleksandra Borkowska²,
Małgorzata Sobstyl⁴**

- 1. Student Research Circle at the first department of Gynaecologic Oncology and Gynaecology, Medical University of Lublin, Poland**
- 2. Student Research Circle at the Department of Epidemiology and Clinical Research Methodology, Medical University of Lublin, Poland**
- 3. Department of Obstetrics and Perinatology, Medical University of Lublin, Poland**
- 4. Chair and Department of Gynaecology and Gynaecological Endocrinology, Medical University of Lublin, Poland**

Corresponding author: Zuzanna Chilimoniuk; zuzia.chil@gmail.com

ORCID ID:

Anna Sobstyl: <https://orcid.org/0000-0003-0330-5742>

Zuzanna Chilimoniuk: <https://orcid.org/0000-0001-8261-0192>

Aleksandra Chałupnik: <https://orcid.org/0000-0003-4249-470X>

Magdalena Łakota-Sipa: <https://orcid.org/0000-0002-0878-0094>

Maciej Dobosz: <https://orcid.org/0000-0002-4413-3310>

Aleksandra Borkowska: <https://orcid.org/0000-0002-0950-2176>

Małgorzata Sobstyl: <https://orcid.org/0000-0001-7981-6659>

ABSTRACT

Hormonal contraception in reproductive age is used not only as a birth control method but also for other indications like acne vulgaris and hirsutism. Acne vulgaris and hirsutism are important signs related to hyperandrogenaemia and provide a serious medical problem for the patients. Reduction of numerous existing symptoms leads to an improvement in the quality of women's life. The aim of the study is to present author's statistical data and to compare it to available data on non-contraceptive benefits.

KEY WORDS: acne; hirsutism; hormonal contraception

INTRODUCTION

The word contraception comes from a combination of two Latin words: contra- meaning against and conceptio- meaning conception. According to WHO, contraception is the use of appropriate methods to prevent fertilization [1]. It is important that the contraceptive method is selected for the woman individually, because each of its forms has both a positive and negative impact on the body [2]. Contraceptives can also be used for decreased androgen production in women. Typical symptoms of hyperandrogenization are hirsutism and acne [3]. According to epidemiological data, hirsutism affects 5-15% and acne affects 6-55% of the female population [4-5]. Oral contraceptives inhibit LH secretion, reduce testosterone levels and cause SHBG growth, thus reducing the symptoms of hyperandrogenization [6-9].

AIM

The aim of the study is to analyse statistical data base on presented research and review scientific publications about non-contraceptive benefits of hormonal contraception treatment such as acne and hirsutism treatment.

MATERIAL AND METHODS

The individual case of epidemiological analysis was used in the study as the research method. Statistical data comes from author's questionnaire. Additionally, during the literature review on PubMed and Google Scholar platforms, keywords, such as hormonal contraception, benefits of contraception, pregnancy prevention were used.

The data was gathered from 100 women of reproductive age. The survey included 7 questions. All analyses were conducted with the use of “statistica”.

RESULTS

100 women of child-bearing age took part in this particular survey. The majority of women (42%) were between 20-30 years at age, 34% of women above the age of 40, 21% women were between 30-40 years at age and 3% of the participants were under the age of 20.

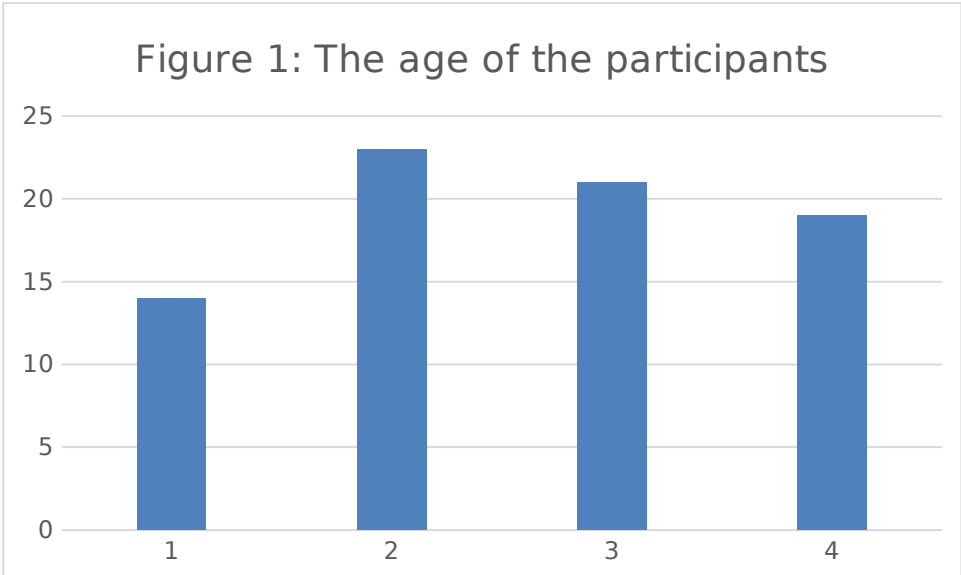


Figure 1. The age of the participants (percentage).

In the questionnaire, symptom range is from 1 meaning no symptoms to 5 meaning very strong symptoms.

Symptom	1	2	3	4	5	Median
Excessive hair growth	71	7	13	6	3	1
Androgenetic alopecia	93	3	1	2	1	1
Acne	57	10	15	14	4	1

Table 1. Occurrence of the individual symptoms.

The least frequent symptom was androgenetic alopecia. It affected only 7% of the participants. Other symptoms were excessive hair growth (29%) and acne (43%). 4% of the

respondents described their acne as a very strong symptom. Similar values were found about excessive hair growth (3%) while only 1% of the respondents marked androgenetic alopecia as very strong symptom.

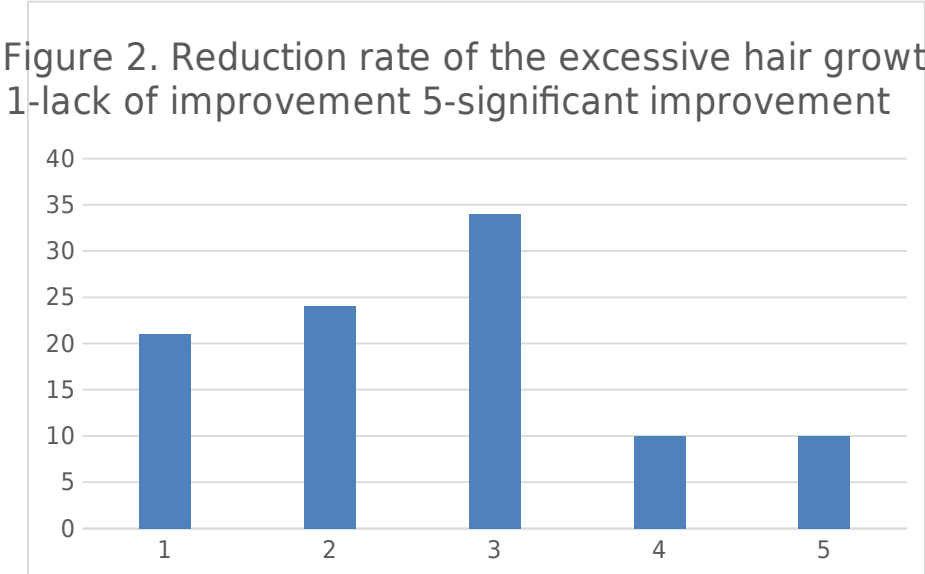


Figure 2. Reduction rate of the excessive hair growth (percentage).

In the group of 100 respondents only 29 reported a problem with excessive hair growth. 79% of the respondents reported an improvement (23 out of 29 respondents). 58% of the women experienced moderate improvement, 21% experienced lack of improvement while only 10% experienced significant improvement.

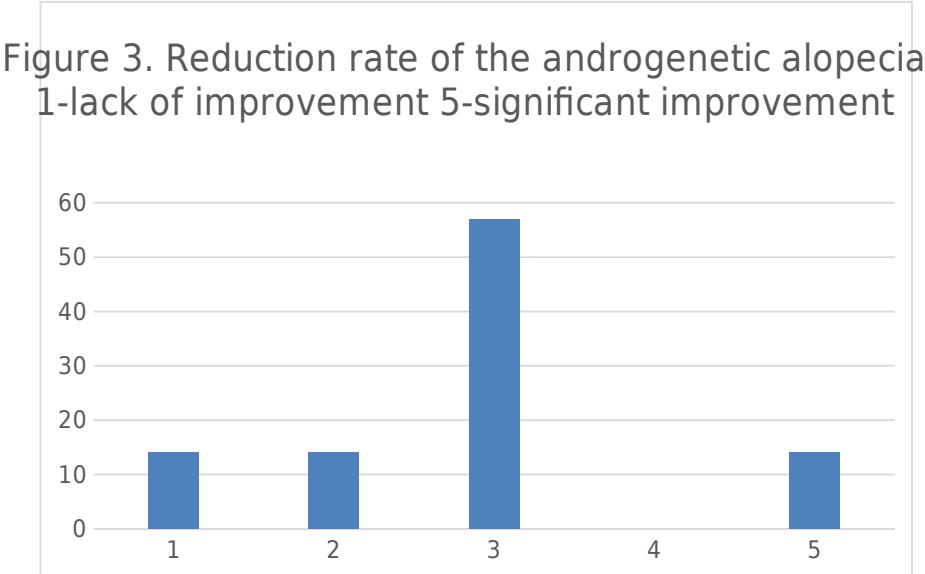


Figure 3. Reduction rate of the androgenetic alopecia (percentage).

In the group of 100 respondents only 7 reported a problem with androgenetic alopecia. 85% of the respondents reported an improvement (6 out of 7 respondents). The majority of the women (71%) experienced moderate improvement. Similar values were found when asked about lack of improvement and significant improvement (14%).

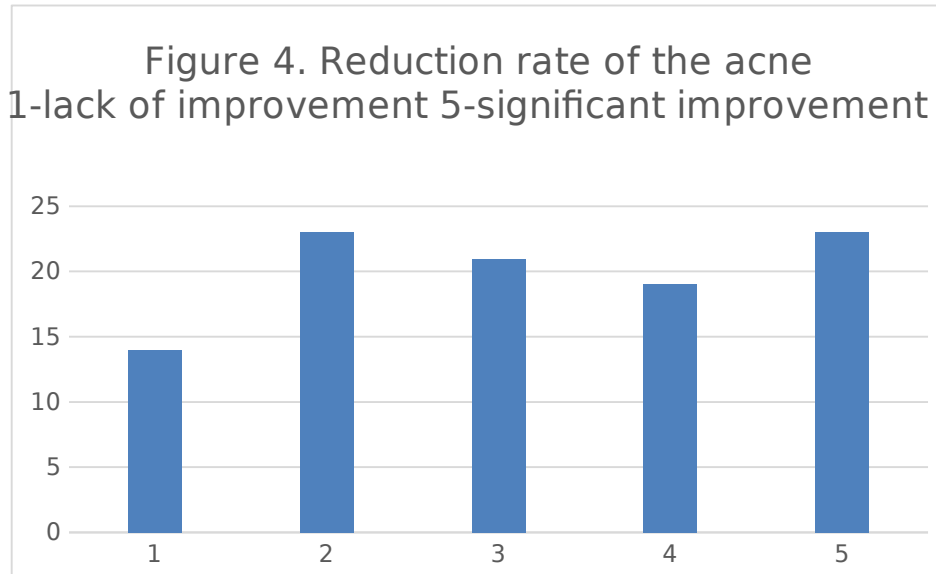


Figure 4. Reduction rate of the acne (percentage).

In the group of 100 respondents 43 respondents indicated a problem with acne. 86% of the respondents reported an improvement (37 out of 43 respondents). The majority of the women (44%) experienced moderate improvement. Only 14% of the respondents reported lack of the improvement while as much as 23% of them experienced a significant improvement.

Symptom	Form of the used contraception		Total
	Others	Intrauterine device (IUD)	
Excessive hair growth			
Lack of improvement	6	0	6
Moderate improvement	16	1	17
Significant improvement	6	0	6
Total	28	1	29

Table 2: The relation between the improvement rate for excessive hair growth and the form of used contraception.

1 person using intrauterine device (IUD) experienced moderate improvement for excessive hair growth. In the remaining 28 subjects with excessive hair growth, moderate improvement was marked as many as 16 times while similar values were found when asked about lack of improvement and significant improvement (6). The above-mentioned relationship is not statistically significant ($p=0,6938176$)

Symptom	Form of the used contraception		Total
	Others	Intrauterine device (IUD)	
Lack of improvement	1	0	1
Moderate improvement	5	0	5
Significant improvement	1	0	1
Total	7	0	7

Table 3: The relation between the improvement rate for androgenetic alopecia and the form of used contraception.

None of the 7 women who experienced androgenetic alopecia did use intrauterine device (IUD).

Symptom	Form of the used contraception		Total
	Others	Intrauterine device (IUD)	
Lack of improvement	6	0	6
Moderate improvement	19	0	19
Significant improvement	17	1	18
Total	42	1	43

Table 4: The relation between the improvement rate for acne and the form of used contraception.

1 person using intrauterine device (IUD) experienced significant improvement for acne. In the remaining 42 subjects with acne the majority experienced moderate improvement (19). Only 6 women reported lack of improvement while 17 of them reported significant improvement. The above-mentioned relationship is not statistically significant ($p=0,4911632$)

DISCUSSION

In the case of hirsutism, androgenetic alopecia and acne caused by hormonal disorders, treatment with antiandrogenic drugs is used [10]. Although the pathogenesis of acne and hirsutism is multifactorial, it is usually related to the intracrine synthesis of active androgens in the skin [11]. Hormonal contraception which includes estrogens has the opposite effect to male androgens in reducing sebum production and the formation of inflammatory changes on the skin [12].

29% of the study participants were affected by hypertrichosis. According to literature, about 60% of women who suffer from hyperandrogenism also experience hirsutism. Excessive hair growth appears in the areas where it typically does not occur [7]. In the presented case 58% of the interviewees admitted moderate improvement and only 1/3 to significant degree (20%). Król et al. obtained positive results in reducing excessive hair growth only in 13.65% of the respondents [13].

Acne is a common skin disease that can be caused by many factors ranging from genetic and environmental factors to hormonal disorders [14]. According to Szepietowski and Reich, this disease occurs in a group of people up to 25 years of age in 85% of the cases. However, it is worth pointing out, this symptom may also occur in the elderly. Referring to the authors mentioned above, acne occurs in 8% of people in the 25-34 age range and in 3% in the 35-44 age range. In this particular survey 43% of the respondents struggled with acne. According to Łukasiewicz and Lew-Starowicz, the use of hormonal contraception in order to treat acne varies from 8 to 24% only in adolescents [15]. The majority of methods of hormonal contraception have a healing effect by reducing sebum production. According to Łukasiewicz and Lew-Starowicz, acne lesions after using hormonal contraception fell by 43% [15]. Similar results were obtained by Król. The author reports that over 50% of the respondents confirmed the improvement in acne symptoms. Different results were obtained in the presented research. 86% of the participants admit that there is a vivid reduction in acne lesions. 44% of the respondents reported moderate improvement and 42% significant improvement.

In this particular survey, participants were asked about improvement of the quality of life during hormonal contraception treatment. Up to 80% of the study respondents reported an improvement. The surveyed women observed positive changes. Regardless if the reason for using contraception was the desire to avoid an unwanted pregnancy, or the respondent's medical reasons, improvement in the quality of life was noted.

CONCLUSION

1. Hormonal contraception as an antiandrogenic drug is used for indications like acne vulgaris, and hirsutism.

2. Hormonal contraception reduces excessive hair growth, which is present in 1/3 of research participants.

3. After hormonal contraception treatment acne symptoms have decreased significantly. The majority of study participants observed positive changes.

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