

Knowledge and experience concerning various methods of contraception in the population of women over eighteen years of age – part one

Agnieszka Ciukso¹ (BCDEF), Marta Schmidt² (BCDEF), Aleksandra Krupa² (BCDEF), Daria Jorg² (ABCDEFG), Katarzyna Zborowska² (ABCDEFG), Violetta Skrzypulec-Plinta² (ABCDEFG)

¹ Department of Adapted Physical Activity and Sport, Woman's Health Institute, School of Health Sciences in Katowice, Medical University of Silesia

² Department of Sexuology, Woman's Health Institute, School of Health Sciences in Katowice, Medical University of Silesia

AUTHORS' CONTRIBUTION: (A) Study Design · (B) Data Collection · (C) Statistical Analysis · (D) Data Interpretation · (E) Manuscript Preparation · (F) Literature Search · (G) Funds Collection

SUMMARY

Introduction. Contraceptive counseling is a part of medical services provided by obstetricians/gynecologists. Its aim is to raise awareness and knowledge concerning human sexuality, menstrual cycle physiology and the fertilization process. These services also involve the selection of methods and means of contraception, taking into account their reversibility and impact on future fertility as well as potential side effects and adverse reactions. The aim of this study was to analyze women's self-evaluation of their knowledge and experience concerning various methods of contraception and expectations regarding contraceptive counseling based on a group of women over eighteen years of age.

Material and methods. The study included 400 healthy women aged from 18 to 57 years ($\bar{x}=27.5$; $SD=6.2$). The self-constructed questionnaire was used. The results were analyzed in IBM SPSS Statistics.

Results. The results indicate that women evaluate their level of knowledge on contraception as relatively high ($\bar{x}=3.8$), but questions on self-evaluation in terms of individual methods reveal that this knowledge is actually much lower, even in self-assessment ($\bar{x}=2.8$). In the opinion of the respondents, specialists are prepared for contraceptive counseling.

Conclusions. Help in making a decision about the choice of a birth control method is an important element of medical services in the field of gynecology and obstetrics. Women expect doctors and midwives to be able to provide information about advantages and disadvantages of a given birth control method and to help in the selection of the most suitable one. The knowledge of women on contraception is often based on information obtained on the Internet, not verified by a doctor or midwife. Education in this area is needed. It can be provided not only by doctors, but also by midwives and nurses.

Key words: contraceptive counseling, contraception, experience

Address for correspondence: Violetta Skrzypulec-Plinta
Department of Sexuology, Woman's Health Institute, School of Health Sciences in Katowice, Medical University of Silesia
Medyków 12, 40-752 Katowice
Tel./fax: +48 32 2088751
e-mail: vskrzypulecplinta@sum.edu.pl

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INTRODUCTION

The expectations of Polish women regarding contraceptive counseling are continuously changing. The pace of living makes women search for more convenient and efficacious contraception. Contraceptive counseling is an element of medical services provided by obstetricians/gynecologists. Planned pregnancy, apart from the sole will to have children, is also significant for clinical, socioeconomic and health-related reasons. The aim of contraceptive counseling is to raise awareness and knowledge of human sexuality, menstrual cycle physiology and the fertilization process. These services also involve the selection of methods and means of contraception, taking into account their reversibility and impact on future fertility as well as potential side effects and adverse reactions. Moreover, they envisage providing patients with knowledge on sexually transmitted diseases and preparing their partners for pregnancy. Contraceptive counseling gives patients the basis for conscious decision-making about birth control [1,2].

The right to contraception and contraceptive counseling results from statutory sexual and reproductive rights, the task of which is to provide the society with freedom and independence in taking decisions about sexuality, one's own body, having children and sexual life [3,4]. According to the Report of the Federation of Women and Family Planning (2008), access to contraception in Poland is still limited, which is associated with, *inter alia*, legal restrictions. Hormonal contraception may be recommended only by doctors. The Federation draws attention to the possibility of referring to the "conscience clause", provided for in the Act on the professions of a physician and dentist from 1996, which gives the right to not provide

a certain medical service that is in conflict with one's conscience, which in consequence results in a refusal to prescribe contraceptives [5,6].

AIM

The aim of this study was to analyze women's self-evaluation of their knowledge and experience concerning various methods of contraception and expectations regarding contraceptive counseling based on a group of women over eighteen years of age.

MATERIAL AND METHODS

The study included 400 healthy women aged from 18 to 57 years ($\bar{x}=27.5$; $SD=6.2$). The patients mostly had higher education ($N=246$; 61.5%), while those with secondary, vocational and lower secondary education comprised less representative groups ($N=112$; 28%, $N=26$; 6.5% and $N=16$; 4%, respectively). The numbers of the respondents residing in towns of up to 20 thousand inhabitants ($N=105$; 26.3%), towns over 20 thousand to 100 thousand inhabitants ($N=107$; 26.8%) and cities over 200 thousand to 500 thousand inhabitants ($N=112$; 28%) were similar. Most respondents were sexually active within six months preceding the study ($N=342$; 85.5%).

The study was conducted with a self-constructed questionnaire investigating self-evaluation of knowledge, experience and expectations associated with the use of contraception and contact with professionals. The results were analyzed in IBM SPSS Statistics. The study was conducted and financed as part of the statutory research, entitled "Knowledge and experience concerning various methods of contraception among medical professionals as well as female and male population over eighteen years of age", funded from a grant of the Ministry of Science and Higher Education for 2016.

RESULTS

A vast majority of the respondents use gynecological services ($N=375$; 93.8%), and most of them declare to see a gynecologist regularly ($N=285$; 76%), usually every six months ($N=145$; 38.7%) and once a year ($N=108$; 28.8%). These visits are associated with contraception alone in only 13.3% ($N=50$) of the respondents. A majority of the respondents use gynecological services in private offices ($N=375$;

52%), and slightly fewer in National Health Fund's facilities ($N=175$; 43.8%).

The surveyed women were asked to self-evaluate their knowledge on contraception on a 6-grade scale (from 0 denoting no knowledge to 5 representing very good knowledge). The average self-evaluation score in the studied population was $\bar{x}=3.8$ ($SD=0.9$). Most women evaluated their knowledge on contraception as good ($N=216$; 54%), very good ($N=78$; 19.5%) and sufficient ($N=66$; 16.5%). In total, women who evaluated their knowledge in a positive way accounted for 90% of the entire study population ($N=360$). There were 10% of women who evaluated their knowledge as below 3 in a 6-grade scale ($N=40$). Of the women who positively evaluated their knowledge, most ($N=215$; 59.7%) believed it to be sufficient, 64 deemed it insufficient (17.8%), and 22.5% ($N=81$) were unable to decide whether it was sufficient or not. In the group of women who evaluated their knowledge negatively (0–2 points, $N=40$), most believed that it was insufficient ($N=23$; 57.5%), while 12.5% of the respondents declaring a low level of knowledge considered it to be sufficient ($N=5$). There were no significant correlations between self-assessment of knowledge and variables, such as age, education, place of residence, place of receiving gynecological counsel, and sexual activity.

The surveyed women also evaluated their knowledge on individual methods of contraception and birth control using an analogous 6-grade scale. The surveyed women believed their knowledge on oral contraceptive pills, condoms and natural family planning to be the greatest. The average score of self-evaluation on oral contraceptive pills was $\bar{x}=3.8$ ($SD=1.2$). In this range, good and very good levels of knowledge were declared by a total of 284 women (71%), while only 23 respondents declared poor knowledge or the lack of knowledge (5.6%). The average self-evaluation of knowledge on natural family planning was $\bar{x}=3.23$ ($SD=1.5$), and very good and good levels of knowledge were declared by 46.5% of the respondents ($N=186$). Very good and good knowledge about condoms was declared by 58% of the women ($N=232$). Few women stated that their level of knowledge in this area was moderate (by assigning themselves 3 and 2 points, $N=30$; 7.6%), which constitutes a much smaller group than that declaring the lack of knowledge or very poor knowledge about condoms ($N=138$; 34.6%). In total, the

average self-evaluation score on the knowledge about condoms was $\bar{x}=3.11$ ($SD=2$).

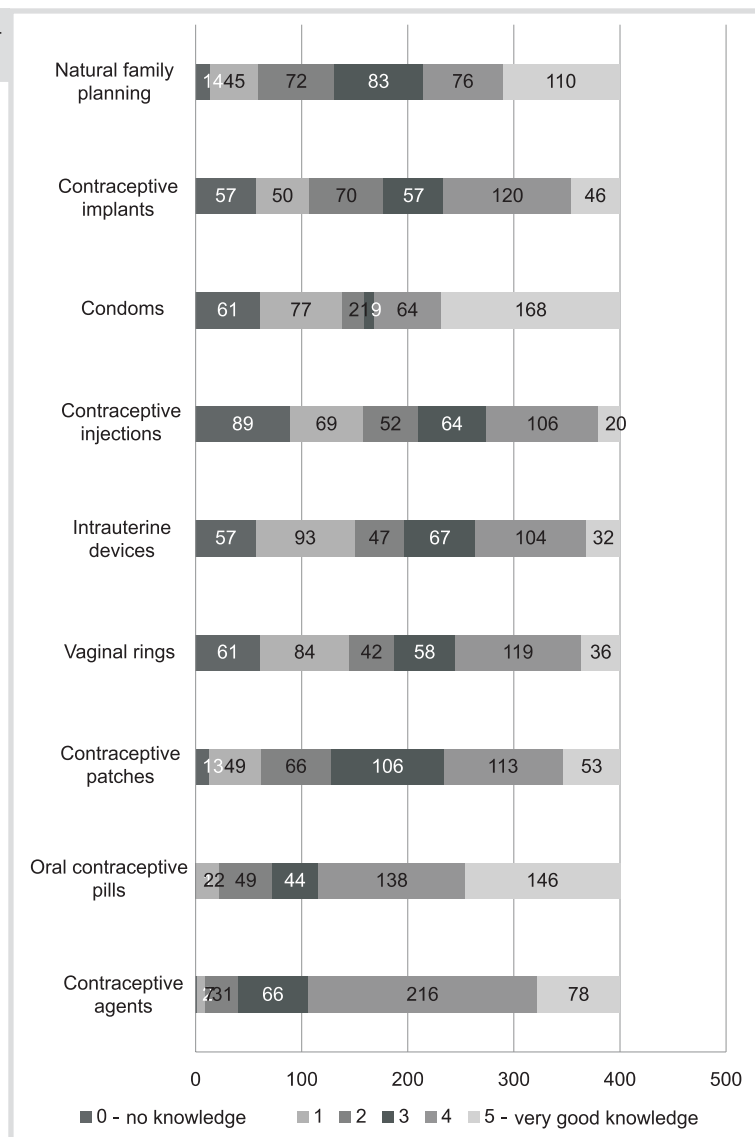
The respondents declared the lowest knowledge about contraceptive injections ($\bar{x}=2.22$; $SD=1.6$), intrauterine devices ($\bar{x}=2.4$; $SD=1.6$), and contraceptive vaginal rings ($\bar{x}=2.5$; $SD=1.7$).

The average score after initial self-assessment of knowledge about contraception was $\bar{x}=3.8$, but after calculating scores assigned for the individual methods, the average decreased significantly to $\bar{x}=2.8$ ($SD=1.1$). The detailed results concerning knowledge self-evaluation in the studied group is presented in Figure 1. The knowledge about effects of contraceptive agents other than birth control was declared by a considerable majority of the respondents ($N=293$; 73.3%). Contraceptive agents were

used for their non-contraceptive effects by 43.5% of this group ($N=174$). The Internet was the main extra-medical source of knowledge ($N=279$; 69.8%). It was followed by press and popular science books ($N=173$; 43.3%), as well as family and friends ($N=122$; 30.5%). A large group of the respondents did not verify their knowledge with gynecology specialists ($N=145$; 36.2%). A gynecologist was the source of knowledge about contraception for 85.2% ($N=341$) of women. This was followed by a midwife ($N=171$; 42.8%). The numbers of patients that had received knowledge about contraception from an endocrinologist, general practitioner, pharmacist and nurse were significantly lower (Fig. 2.).

Most respondents believed that specialists were prepared for providing contraceptive

Fig. 1. Self-evaluation of knowledge in the surveyed women



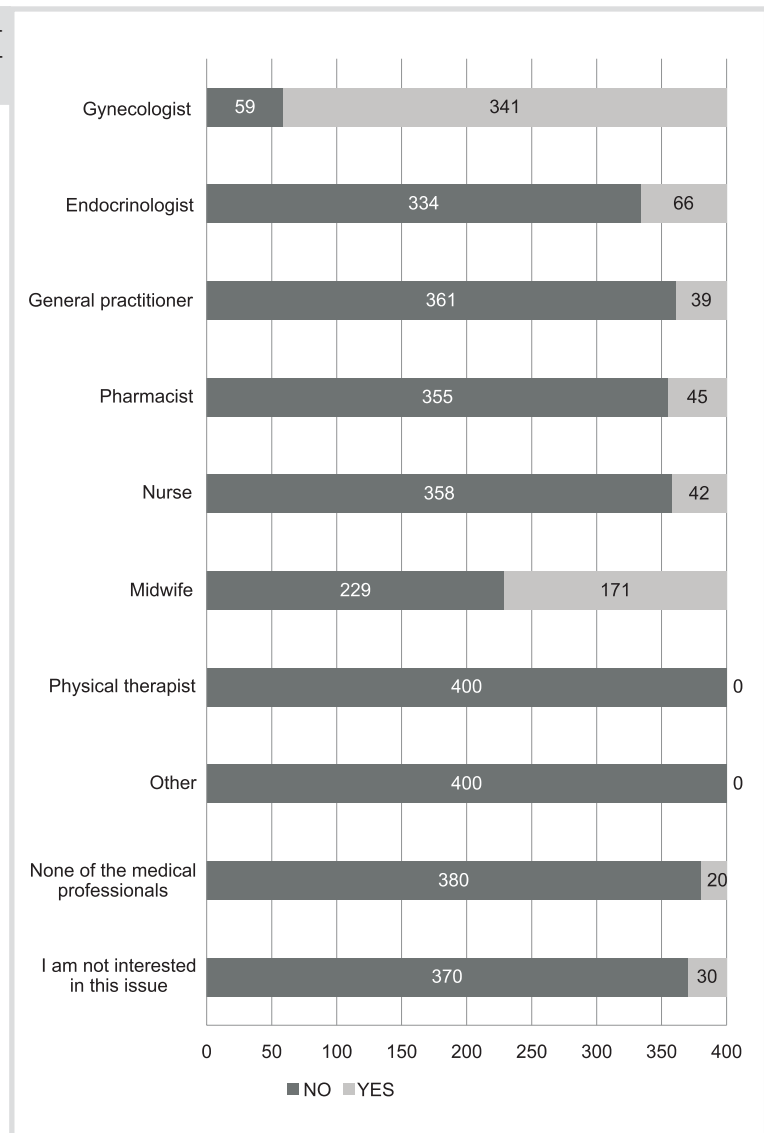
counseling (N=190; 47.5%), while a vast group of women had no opinion on this matter (N=145; 36.3%). The respondents evaluated the expertise of specialists in the area of contraception (from 0 denoting no knowledge to 5 denoting a very good level of knowledge). Most patients evaluated the expertise of specialists as good (N=161; 40.3%), 15% (N=60) stated it to be very good, and 20.5% (N=82) deemed it sufficient. The average score was $\bar{x} = 4.19$ (SD=1.2). Details are presented in Figure 3.

Of all methods mentioned in the questionnaire, 8 were discussed with a specialist. The surveyed women discussed 2 birth control methods on average ($\bar{x} = 1.9$). The most often discussed method was oral contraceptive pill (78.2% of cases, N=313), followed by contra-

ceptive patches (N=122; 30.5%), condoms (N=103; 25.8%), and intrauterine devices (N=82; 20.5%). Contraceptive implants (N=9; 2.3%), injections (N=23; 5.8%), and vaginal rings (N=55; 13.8%) were discussed the least often. In 10.3% (N=41) of cases, no variants of birth control were discussed with a specialist. Moreover, 42.3% (N=169) received additional information materials on contraception (Fig. 4).

In the study population, 262 women (65.5%) used contraception at the time of the study. The methods were: oral contraceptive pills (N=141; 53.8%), condoms (N=119; 45.4%), intrauterine devices (N=6; 2.3%), contraceptive injections (N=6; 2.3%), contraceptive patches (N=14; 5.3%), and vaginal rings (N=21; 8%). Details are presented in Figure 5.

Fig. 2. Medical profession as a source of knowledge on contraception for the studied women



Most of the women who used contraception, used a single method. However, almost 20% of the respondents used two combined methods, usually a condom with pills or patches. For most respondents, financial reasons were not the main factor determining the choice of a given method. Only 14% of the respondents declared this factor to be of substantial or high significance in the choice of a birth control method. For over a half of the women, protection from sexually transmitted diseases was an important and very important aspect in the selection of a contraceptive method (N=143; 54.6%). Most of the respondents

stated that they had had a conversation with their partner before making a decision about contraception (N=167; 63.7%). A significantly lower number of women shared the cost of contraception with the partner (N=11; 42.4%).

The most common reason for selecting a given method was its efficacy and the sense of security it provided. The advantages of pills were: a reasonable price, relief of menstrual pain, and comfort during sex, which was less stressful for the respondents using pills. The women also took into account the suggestion of a gynecologist. The main reason for selecting condoms was their availability, no side effects,

Fig. 3. Expertise of specialists on contraception according to the surveyed women

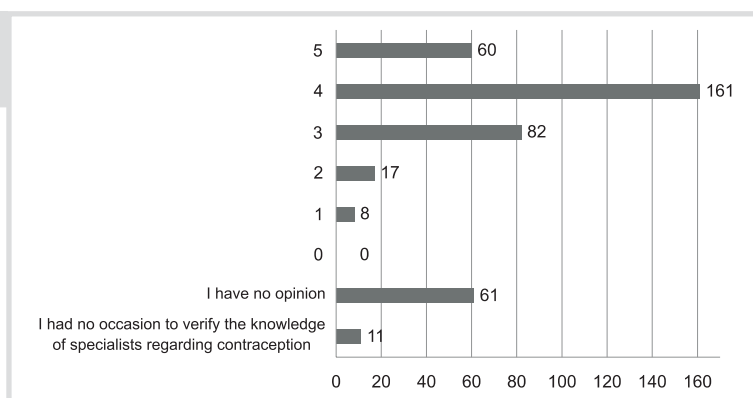
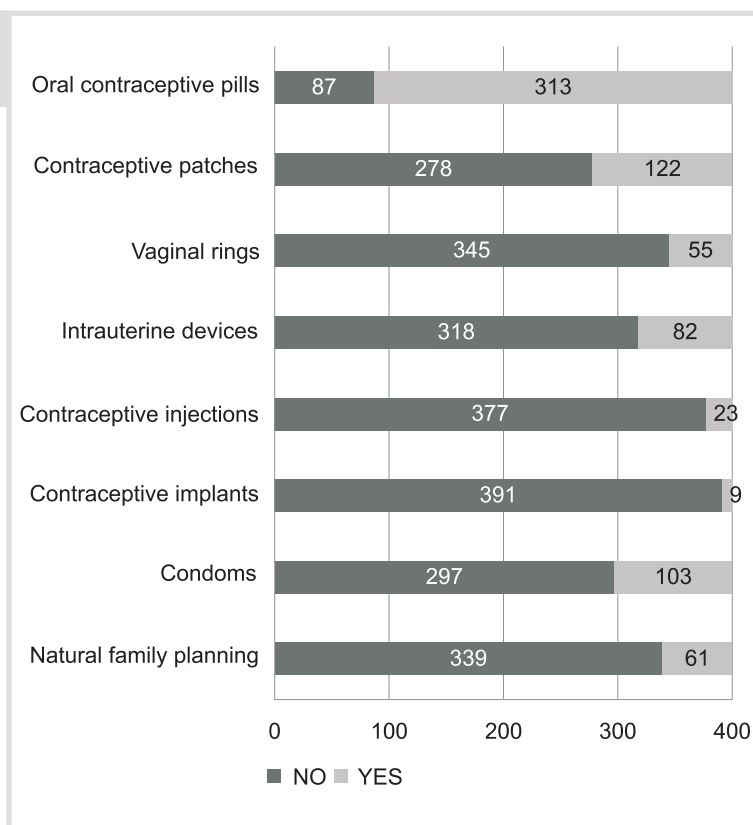


Fig. 4. Selected methods of contraception discussed with the specialist during consultation



no effect on health and hormonal balance, and the possibility of purchasing without a prescription.

Among women who used contraception (N=262), nearly 40% (N=103; 39.3%) had additional tests ordered before its prescription. The most common tests were: complete blood count, peripheral blood smear, hormonal profile as well as thyroid and liver function tests.

The factors that a doctor analyzed before the selection of contraception for the patient included: the health status, comorbidities, and age. The financial status and the relationship status were the least frequently considered factors (Fig. 6).

In the group of women who used contraception during the survey, a half (N=131; 50%) had previously used a different method. A considerable majority of the women (N=108; 82.4%) had previously used one other method, while the remaining respondents had used two other methods (N=23; 17.6%). The greatest number of the patients discontinued oral con-

traceptive pills (N=64; 48.9%), and the causes of this were: malaise (headaches, nausea, fatigue) and a wish to avoid the effects on hormonal balance. The respondents also indicated problems with taking pills regularly, lower libido, and weight gain.

The women who discontinued the use of condoms (N=34; 26%) stated that the reasons were: a high risk of pregnancy (due to slippage or rupture) and higher efficacy of the new method. Other causes of changes in the use of contraception were also: entering into a permanent relationship and a decision taken together with a partner to replace the birth control method to a more convenient and less noticeable one.

In the group of women who discontinued contraceptive patches (N=27; 20.6%), inconvenience and low libido were the main causes.

Most respondents declare that they had specific expectations concerning contraceptive counseling in the doctor's office (N=236,

Fig. 5. Methods of contraception used currently in the surveyed women

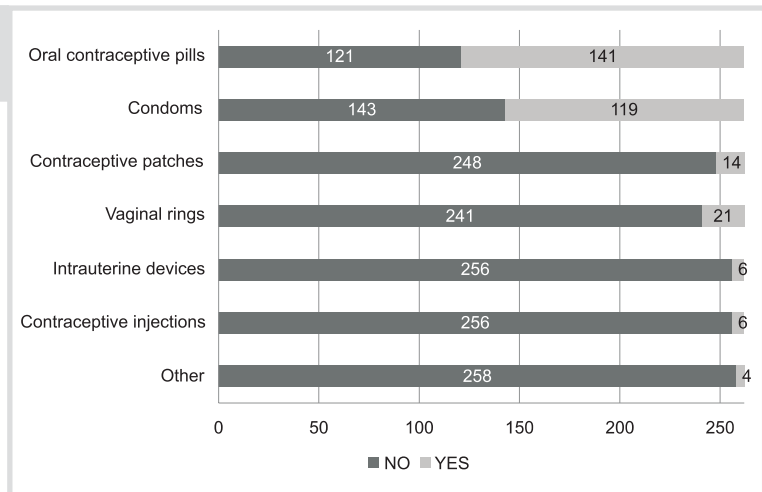
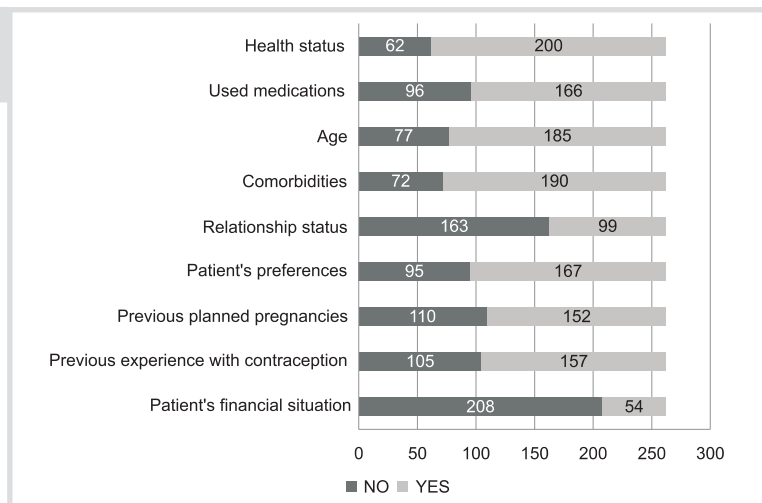


Fig. 6. Selected factors considered by a doctor in the choice of contraception for the patient



59%). These expectations involved: expertise and professionalism of a doctor, having proper competence to conduct a conversation with the patient (reliable knowledge, knowledge of novelties, the ability to adjust the solution to the current health status, circumstances and preferences), presentation of all possibilities with their pros and cons, information about tests required before the use of contraception, and provision of information materials. A low percentage of women also had expectations about contraceptive counseling towards professionals other than doctors (N=7; 1.75%).

DISCUSSION

As indicated in the CHOICE study of 2012, tendencies in the field of knowledge and its related needs among patients do not change significantly over the years. In all the studies, it was found that over 57% of the respondents declare the need to talk to a specialist about adverse effects of hormonal drugs, while 22% expect to have a conversation about the efficacy of recommended agents. Moreover, 15% of the respondents expect to have the mechanism of action explained, 11% want to know the principles of use of a given method, and 4% are eager to learn about the causes of therapy failures [7]. Also Piróg et al. argue that help in the selection of the most effective method of contraception and providing information about benefits and adverse effects are the most common expectations of young women in their conversations with a gynecologist [8]. These results are in line with those reported in the present study. The expectations about contraceptive counseling indicated by the respondents also included the need to obtain information about pros and cons of various methods for their better adjustment to the patient's individual situation.

This study reveals an alarming fact that a significant number of young women draw knowledge about contraception from the Internet. This tendency has been confirmed by Szyper and Gotlib [9]. The present study also demonstrates that the Internet was the main source of knowledge about contraception. Moreover, some respondents do not verify this information with specialists despite evaluating the professional's expertise as high.

In the study of Tomaszewski et al., it was demonstrated how important contraceptive counseling was for the choice of a family plan-

ning method. Before consultation, the respondents declared the choice of the following methods: 59% chose combined contraceptive pills, 22% chose contraceptive patches while 6% chose intrauterine hormonal systems. Of the studied women, 10% had no specific preferences regarding contraception, and the choice of a different method than hormonal one was declared by 3% of the respondents. After presenting information about pros and cons of birth control methods available in Poland, the proportions of women interested in combined hormonal pills and contraceptive patches decreased by 7% while an interest in hormonal contraceptive vaginal rings increased by 19%. Following a consultation, 4% of patients still did not have any preferences regarding birth control. A high proportion of women (78.4%) believed that the contraceptive consultation was useful, and over 91% of the respondents were interested in information materials about hormonal contraception [7]. The results obtained in our studies indicate that the greatest number of women selected methods that had been previously discussed with a specialist, which suggests that only selected methods were discussed. The women specified their expectations about medical counseling, indicating the presentation of various methods with their pros and cons. Women decide to use a given form of contraception for various reasons. Tomaszewski et al. have presented data on factors determining the selection of combined contraceptive pills as a birth control method: ease of use (73.5%), favorable profile as for vaginal bleeding (72.8%), mild menstrual symptoms (58.1%), convenience of use (55.6%), and discretion of use (52.3%). In the group of the studied women, contraceptive patches had the following advantages: using once a week (90.2%), convenience (83.1%), simplicity and ease of use (82.3%), low risk of missing a patch (60.2%), and regular intervals between bleeding episodes (52.6%). The most important advantages of hormonal intrauterine systems were: use once a month (94.3%), convenience (79%), a negligible risk of misuse (64.2%), high contraceptive efficacy when vomiting (61.4%), and doctor's recommendation (67.9%) [7]. Moreover, in the present study, the patients selected contraceptive pills due to their efficacy, reasonable price, reduced menstrual pain, and comfort during sex, which influenced their sense of security. The respondents also pointed out that the choice of this method was dictated by the gynecologist's recommendation.

In the study of Aubeny et al., 46% of women who began using contraception stated that the doctor's therapeutic suggestion had not been optimal in their opinion [10]. In our study, women pointed out that, when selecting contraception, the doctor did not take into account the financial status, the relationship status and (in a lower number of cases) patient preferences. These facts may affect the satisfaction with a given method. Webb indicates that medical staff oftentimes do not have sufficient experience and knowledge on contraceptive counseling [10]. In our studies, most women evaluated the expertise and preparation of specialists for contraceptive counselling as high.

CONCLUSIONS

Help in making a decision about the choice of a birth control method is an important element of medical services in the field of gynecology and obstetrics. Women expect doctors and midwives to be able to provide information about advantages and disadvantages of a given birth control method and to help in the selection of the most suitable one. The knowledge of women on contraception is often based on information obtained on the Internet, not verified by a doctor or midwife. Education in this area is needed. It can be provided not only by doctors, but also by midwives and nurses.

REFERENCES

1. Ressler I.B, Jain T. Odwracalne metody antykoncepcji: wpływ na przyszłą płodność. *Ginekologia po dyplomie* 2010; 11: 45-49.
2. Sarnik A, Zborowska K, Jorg D, Skrzypulec-Plinta V. Poradnictwo antykoncepcyjne w Polsce. *Forum położnictwa i ginekologii*. 2018; 39: 35-43.
3. World Health Organization. Deklaracja Praw Seksualnych, 2002 (online). Dostępne: <http://www.heal.pl/pliki/DeklaracjaPrawSeks.pdf>.
4. World Association for Sexual Health. Deklaracja Praw Seksualnych Człowieka, 2013 (online). Dostępne: http://www.worldsexology.org/wp-content/uploads/2013/08/declaration_of_sexual_rights_sep03_2014.pdf.
5. Federacja na rzecz Kobiet i Planowania Rodziny. Zdrowie i prawa reprodukcyjne i seksualne a system zdrowia publicznego w Polsce, 2008 (online). Dostępne: http://federa.org.pl/dokumenty_pdf/antykoncepcja/-ZPR.doc
6. Ustawa z dnia 5 grudnia 1996 r. o zawodach lekarza i lekarza dentysty. Dz.U. 1997 Nr 28 poz. 152.
7. Tomaszewski J, Paszkowski T, Dębski R i wsp. CHOICE (Contraceptive Health Research Of Informed Choice Experience) – edukacyjny program badawczy dla kobiet planujących stosowanie złożonej antykoncepcji hormonalnej w Polsce. *Ginekol Pol* 2012; 83: 417-423.
8. Piróg M, Podgórnaiak M, Putowski M i wsp. Opieka ginekologiczna wśród młodych kobiet w Polsce z zastosowaniem technologii medycznych. *European Journal of Medical Technologies* 2014; 3(4): 17-23.
9. Szyper A, Gotlib J. Próba porównania wiedzy i postaw studentów dwóch wybranych uczelni wyższych na temat doustnej antykoncepcji hormonalnej. *Problemy Pielęgniarstwa* 2011; 19 (1): 99-108.
10. Aubeny E, Buler M, Colau JC et al. Oral contraception: patterns of non-compliance. The Coraliance study. *Eur J Contracept Reprod Health Care* 2002;7:155-61.
11. Webb A. What do women want? Counselling in contraception. *Eur J Contracept Reprod Health Care* 2002;7:150-154.