

The role of the midwife in the therapy of infertility in Poland in the opinion of patients

Rola położnej w terapii niepłodności w Polsce w opinii pacjentów

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Abstract

Background. Infertility is a disease of the reproductive system manifesting with the inability to get pregnant within a minimum of 12 months. In diagnosing infertility and the therapeutic process, pharmacotherapy, surgery and assisted reproductive technology are used. In Poland, the NaProTechnology program is also available, which is a diagnostic and therapeutic method of reproductive health disorders without utilizing assisted reproduction. The midwife can play an important role in the care of the infertile couple.

Objectives. To assess the opinion of patients using the NaProTechnology method on the role of the midwife in the care of an infertile patient and her family.

Material and methods. The study was conducted for a period of 6 months in Poland among couples using NaProTechnology. The research method was a diagnostic survey and the author's questionnaire in the online and paper version. The study group consisted of 101 couples.

Results. Briefly, 47.52% of respondents would like a midwife to educate them on lifestyle, while 40.59% of couples would like the midwife to teach the observation of the menstrual cycle and 36.63% would like the midwife to prepare a diet regimen. Only a few percent of couples answered that the midwife was involved in caring of them; 22.77% of respondents mentioned that the midwives had the competence to teach about menstrual cycle observations, 21.78% – that she should educate on a proper lifestyle and only 4.95% of couples stated that a midwife should perform ultrasound (USG) examination.

Conclusions. The midwife has the competence to be a member of the therapeutic team, performing care of the infertile couple. The competence of midwives is higher than the actually used potential and the patients need an education about the medical services that a midwife can perform.

Key words: infertility, comprehensive care, role of a midwife

Streszczenie

Wprowadzenie. Niepłodność jest chorobą układu rozrodczego objawiającą się niemożnością zajścia w ciążę przez minimum 12 miesięcy. W procesie diagnostyczno-lecznym niepłodności korzysta się z farmakoterapii, chirurgii i technologii wspomaganego rozrodu. W Polsce stosuje się również program NaProTechnology, który stanowi metodę diagnostyczno-leczącą w zakresie zaburzeń zdrowia prokreacyjnego z wyłączeniem wspomaganego rozrodu. Położna może odegrać istotną rolę w opiece nad niepłodną parą.

Cel pracy. Poznanie opinii pacjentów korzystających z NaProTechnology na temat roli położnej w opiece nad niepłodną parą.

Materiał i metody. Badanie prowadzono przez 6 miesięcy w Polsce. Objęto nim pary korzystające z programu NaProTechnology. Metodą badawczą był sondaż diagnostyczny, narzędziem badawczym – autorski kwestionariusz ankiety w wersji internetowej i papierowej. Grupę badaną stanowiło 101 par.

Wyniki. Aż 47,52% ankietowanych par chciało, by położna prowadziła edukację w zakresie stylu życia, 40,59% par opowiedziało się za tym, żeby nauczala obserwacji cyklu miesięczkowego, a 36,63% par wyraziło życzenie, aby ustalała ona dietę. Jedynie kilka procent par wskazało, że położna była zaangażowana w opiekę nad nimi. Wśród badanych par 22,77% stwierdziło, że położna posiada kompetencje do nauczania obserwacji cyklu, 21,78% par – że powinna edukować w zakresie stylu życia, a jedynie 4,95% par sądziło, że może wykonywać USG.

Wnioski. Położna jest wykwalifikowana do bycia członkiem zespołu terapeutycznego sprawującego opiekę nad niepłodną parą. Kompetencje i kwalifikacje położnych są wyższe od aktualnie wykorzystywanych, a środowisko pacjentów potrzebuje edukacji na temat świadczeń, które może wykonywać położna.

Słowa kluczowe: niepłodność, kompleksowa opieka, rola położnej

Background

Infertility is defined as a disease of the reproductive system manifesting itself in the inability to get pregnant for a minimum of 12 months without using contraceptive methods and with regular sexual intercourse (3–4 times a week).^{1,2} A woman may have a problem both with getting pregnant and carrying the pregnancy to term. Infertility is influenced by the age of partners, diet, lifestyle, external environment, sexual behavior, prolonged use of contraception, as well as cardiovascular, genetic and immunological diseases or psychological problems. Currently, procedures called Oncofertility are being developed, aimed at preserving fertility in patients undergoing cancer therapy. This method is being improved by gynecologists, but also oncologists, hematologists, urologists, pediatricians, and internists. Joint action of various specialists and adequate information on the available therapeutic methods provided to patients determine the success of the fertility-preserving therapy.^{1,3–6} Currently, the problem of infertility affects 1.3–1.5 million couples in Poland. It is considered in social and demographic terms. Healthcare professionals, including doctors and midwives, more and more frequently provide medical care to patients with current or past infertility problems.

The use of the evolving assisted reproductive technology (ART) is also becoming increasingly popular. It has been estimated that 1–3% of children in industrialized countries are born as a result of fertilization using ART.⁷ The analysis of morphological features of oocytes, sperm cells and embryos has recently contributed to the increase in the effectiveness of ART. Scientists are also working on developing modern metabolomic technologies that could further improve this technique. At the same time, the NaProTechnology program (natural procreative technol-

ogy/NaPro/NPT/naprotechnology) is being promoted in Poland, which is the method of choice for patients who find ART unacceptable for ethical or religious reasons.

It is extremely important to search for causes of infertility and develop new diagnostic and therapeutic methods, which would constitute an integrated care program for the infertile female patient and her family. A holistic approach is also crucial – not only medical, but also psychological problems or the lack of emotional support, constitute an important factor in the failure to conceive and carry the pregnancy to term. By virtue of the applicable law, qualifications and competences, the midwife can play an important role in the comprehensive care of the infertile couple.

Diagnosing infertility requires taking medical history, a physical examination for genital defects and dysfunctions, and a detailed medical examination, including an ultrasound (USG) of the reproductive organ, as well as hysterosalpingography (HSG), hormonal tests both in man and woman, and the assessment of sperm in man. For patients with infertility, a healthy lifestyle is recommended (a diet regimen affecting fertility, moderate physical activity, stimulant withdrawal, vitamin supply, reduction of stress, fatigue and influence of harmful working and external environmental conditions), as well as treatment of systemic diseases and chronic infections. In addition, hormonal and surgical treatment, and diagnostic and/or therapeutic procedures, such as laparoscopy, hysteroscopy and ART, are used depending on the diagnosis made.^{1,8,9}

The use of ART is intended to enable conception, carrying pregnancy to term and giving birth to a healthy child. Getting pregnant quickly is more important than thorough therapy.¹⁰ Stimulation of ovulation followed by intracervical insemination (ICI), intrauterine insemination (IUI), or in vitro fertilization (IVF) are used.

ination (IUI) or fallopian sperm perfusion (FSP) is almost always recommended. In some patients, after several unsuccessful inseminations, in vitro fertilization and embryo transfer (IVF-ET) is performed. Some patients require intracytoplasmic sperm injection (ICSI) or a more complex procedure (in case of failure of previous ARTs and male infertility), i.e., intracytoplasmic sperm injection together with in vitro fertilization (IVF-ICSI). In addition, incubation and implantation are supported by mechanical or laser cutting of the zona pellucida or enzymatic etching. The assessment of egg cells, sperm cells, embryos, and embryo culture medium, followed by cryotherapy is also used. In ART, gamete intrafallopian transfer (GIFT) or zygote intrafallopian transfer (ZIFT) takes place.^{1,8,9,11}

Another evolving method of infertility treatment in Poland is NaProTechnology. It is a diagnostic and therapeutic method in reproductive health disorders, taking into account the physiology of fertility and infertility periods of a woman's menstrual cycle, consisting in creating, on the basis of conducted observations, individual guidelines for each couple (selection of appropriate days to perform tests or supply drugs), excluding ART procedures. The NaProTechnology program assumes 1 year of infertility diagnosis and treatment, and another year of moderate sexual activity and work on the relationship and sexuality of partners. If the patients are not cured, they are not offered ART but are prepared for child adoption. Systemic, hormonal and surgical treatment is carried out by a doctor in cooperation with a menstrual cycle instructor, and nurse/midwife, with the additional support of psychologists or clergymen, to provide holistic care for the female patient and her family. The author of the method, Hilgers, emphasizes the need to care for fertility rather than control it, including a thorough diagnosis and treatment, to ensure the health of patients and to create conditions for natural conception of the child and to carry pregnancy to term. The patient in the NaProTechnology program should be treated subjectively and participate in making all decisions.^{10,12,13}

The role of the midwife in the process of diagnosing and treating infertility is of great importance. In *The Nurses and Midwives Act* of 2011, activities that midwives may carry out in the course of their professional practice are listed. Persons with an active right to practice midwifery may provide health education, including preparation for family life, parenthood, maternity, and paternity. They may also educate on methods of recognizing fertility, provide advice on hygiene and nutrition, take preventive action in female diseases and maternal pathologies, and promote health. Midwives provide gynecological and obstetric care to the patient, follow medical recommendations in the process of diagnostics, treatment and rehabilitation, and, at the same time, are competent to provide certain preventive, diagnostic, therapeutic, and rehabilitation services independently.¹⁴

The competences of the midwife do not include specific tasks within infertility therapy. In assisted reproductive clinics, midwives perform similar activities in patient care as in outpatient clinics and hospital wards. The NaProTechnology program creates workplaces for the graduates of medical studies, including midwives, who can be instructors who teach how to perform observation of the menstrual cycle using the Creighton Model FertilityCare System (CrMS, Model Creighton – a detailed method of fertility recognition with a standardized manner of observing and recording fertility biomarkers), educators and initial menstrual cycle diagnosticians, more independent in conversations with patients than people without medical education.^{12,13} However, midwives are not involved in all elements of infertility diagnostics and treatment, even though they are licensed to do so.

The literature describes the participation of midwives in the prevention, diagnostics and treatment of infertility. Their important role is indicated in the area of disease prevention, education and health activities, as well as in the protection of maternity and paternity. Health-promoting behaviors, an appropriate lifestyle and preconception care along with the recognition and care for fertility are inherent in dealing with infertility and giving birth to healthy children. It is described that the graduates of obstetrics should, as part of their professional practice, conduct education along with the recognition of individual needs of infertile patients, in order to meet the problems of Polish society. It is also indicated that a primary care midwife can participate in the early diagnosis of fertility problems and in referring patients to specialists, as well as take care of the intimacy of the conducted tests and the emotions and mental state of women and their families. It is also worth noticing that the graduates of midwifery studies are specialists in reproductive health and, what follows, can teach the observation of the menstrual cycle and care for the physiology of the body.^{15,16} A family midwife diagnoses the environmental factors of infertility and the condition of the family after fertility treatment along with the mother–child bond, and supports the patient during lactation. In the course of their education, the graduates of midwifery studies are prepared to conduct therapeutic discussions, monitor the condition of women after pregnancy loss and help couples to become ready to make use of psychological support.^{14,16} In connection with the amendment of the *Nurses and Midwives Act* of January 1, 2016, after appropriate preparation, the representatives of these professions are qualified to issue prescriptions on the basis of a medical recommendation, to prescribe selected drugs, including issuing prescriptions for these drugs, as well as to independently refer patients for diagnostic tests.¹⁷

Utilizing the great potential of midwives in the care of an infertile woman and her family could significantly improve the diagnostic and therapeutic process of infertility and the application of the principle of holistic patient care.

The midwife, as part of her work in the therapeutic team dealing with the treatment of infertility, should make use of a whole range of qualifications and be involved, among other things, in the initial diagnosis of infertility.

The aim of this study was to assess the opinion of patients using the NaProTechnology on the role of the midwife in the care of an infertile female patient and her family.

Material and methods

The study was conducted for a period of 6 months in Poland among couples using NaProTechnology in the diagnosis and treatment of infertility. The research method used was a diagnostic survey, whose tool was the author's questionnaire in an online version (available through the QR code, web portal, e-mail correspondence) and a paper version (distributed in 2 clinics in Warsaw). A trial study was carried out on 10 couples from Warsaw, followed by the final study on 300 couples from Poland. The questionnaire was completed and delivered by 103 couples; 101 questionnaires were used for the analysis.

The age range of the tested couples was 25–45 years. The average age of the surveyed women was 33.08 years (median (*Me*) = 32 years; standard deviation (*SD*) ± 4.11 years). The average age of the surveyed men was 34.33 years (34 ± 4.14 years). The average age of the surveyed couples was 33.70 years (33 ± 3.91 years). Eighty-six percent of the surveyed women had higher education, 12% – secondary education and 2% – vocational education. None of the surveyed women had only primary education. Among the surveyed men, 73% had higher education, 20% – secondary education and 7% – vocational education. None of the surveyed men had only primary education. Forty-six percent of the surveyed couples lived in a big city, 34% in a small town and 20% in a village. Before infertility was diagnosed and the treatment commenced, 69% of female patients had not been pregnant, 24% of them had been pregnant once, 3% – 2 times, and 4% – 3 or more times. The average number of pregnancies was 0.43 (0 ± 0.78). Before infertility was diagnosed and the treatment commenced, 88% of the surveyed women had not given birth to a living child, 11% had given birth to 1 living child and 1% to 2 living children. The average number of live births is 0.13 (0 ± 0.37). Four percent of the surveyed couples are in an informal relationship, while 96% are married. Among the surveyed married couples, 45% are married ≤ 5 years, 42% 5–10 years, and 13% > 10 years. The average duration of the relationship of the surveyed couples is 6.72 years (6 ± 3.47 years).

The collected test results were prepared in the LibreOffice Calc program (<https://pl.libreoffice.org/>). Statistical analyses of the obtained results were carried out using the following tests: the χ^2 Yates's test, the χ^2 Pearson's test and the χ^2 maximum likelihood test (χ^2 NW) in the STA-

TISTICA v. 12 program (StatSoft, Inc., Tulsa, USA), and the differences for the level of significance $p < 0.05$ were considered statistically significant.

Results

As many as 47.52% of respondents declared that they would like a midwife to educate them on lifestyle, 40.59% of couples would like a midwife to be the person that teaches them how to observe the menstrual cycle, and 36.63% of couples would like a midwife to prepare an appropriate diet regimen. A small number of couples indicated that the midwife was involved in their care in the process of infertility diagnostics and treatment. Only 7.92% of the surveyed women stated that their cytology and endocervical culture test was performed by a midwife, and 6.93% of couples admitted that the midwife referred them for examination. It is also worth noting that 22.77% of the surveyed couples believed that the midwife's range of competences includes teaching the observation of the menstrual cycle, and 21.78% of the respondents believed that lifestyle education was included in it. Only 4.95% of the respondents considered the midwife competent to perform an USG examination (Fig. 1).

Among the surveyed couples > 35 years old, 17% believed that the midwife's competences include referring the patients to specialists for consultations, while among couples under the age of 30, only 4% shared that opinion ($p = 0.27$; χ^2 Yates's test). Among the surveyed couples > 35 years old, 13% indicated that the competences of a midwife include referral for examination, while among couples < 30 years old, only 4% agreed ($p = 0.44$; χ^2 Yates's test) – Fig. 2.

Among the surveyed couples aged 30–35, 49% would like the midwife to teach the observation of the menstrual cycle, while among couples > 35 years this was demonstrated in 41%, and in the age range below 30 years only in 24% of couples ($p = 0.12$; χ^2 Pearson's test). Among the surveyed couples aged 30–35, 59% would like the midwife to educate them on lifestyle affecting fertility, among those aged > 35 , 41% thought so, and for those aged < 30 , only 32% felt such need ($p = 0.06$; χ^2 Pearson's test). Almost half (47%) of the couples in the 30–35-years-of-age age group would like the midwife to prepare a diet regimen affecting fertility, 38% of the couples aged > 35 expressed such a desire, while only 16% of couples in the > 30 age group agreed ($p = 0.03$; χ^2 Pearson's test). Respondents > 30 years old significantly more often than respondents < 30 years old stated that they would like the midwife to prepare a diet regimen affecting fertility. Among the surveyed couples aged 30–35, 30% showed willingness for the midwife to refer patients for examination, which was supported by 21% of couples aged < 35 , while only by 12% of couples aged < 30 ($p = 0.21$; χ^2 Pearson's test). Among the surveyed couples aged 30–35, 42% wanted the mid-

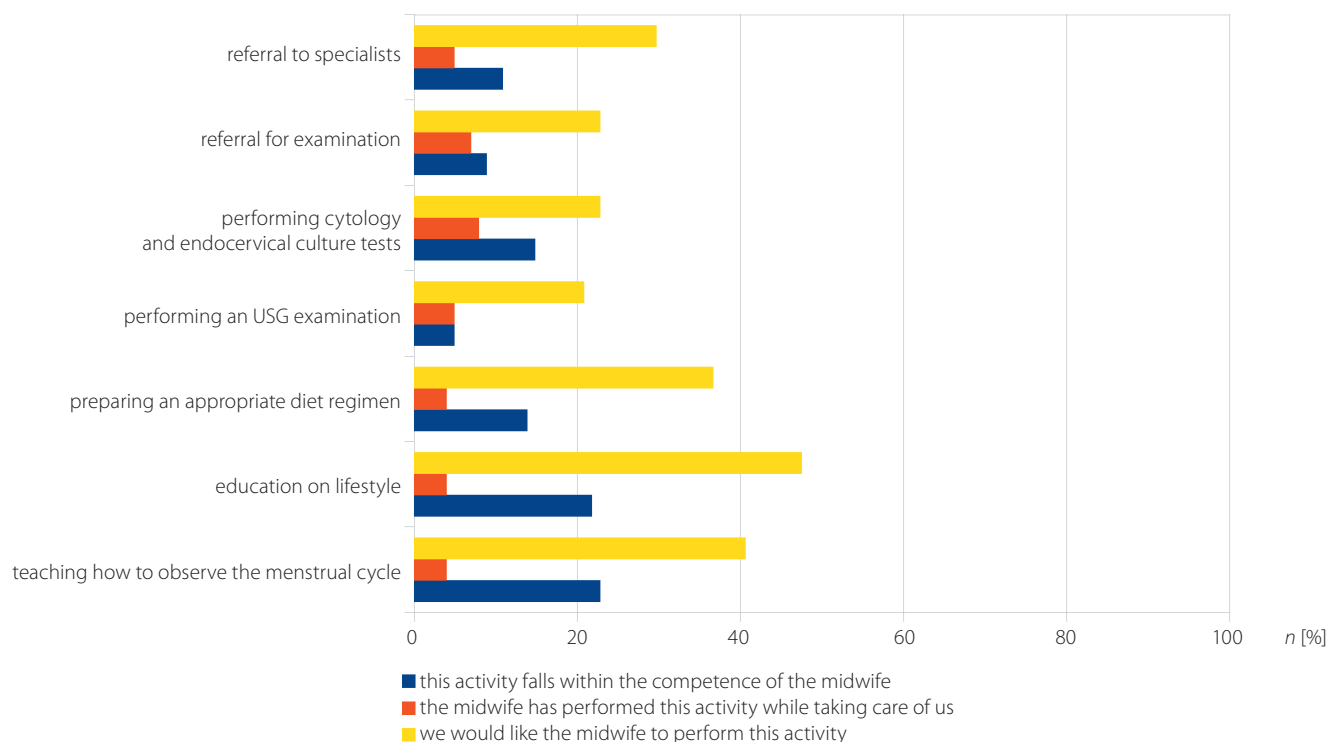


Fig. 1. Assessment of the role of the midwife in a comprehensive care during the treatment of infertility

Ryc. 1. Ocena roli położnej w kompleksowej opiece w leczeniu niepłodności

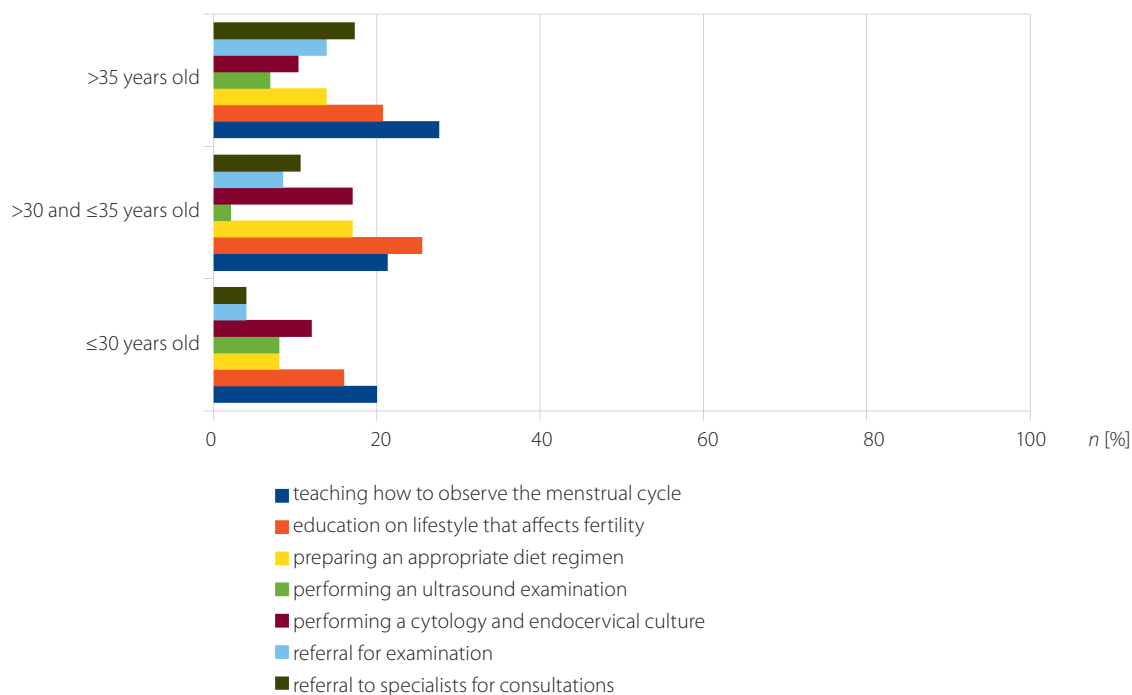


Fig. 2. Assessment of the competences of midwives depending on the couple's age

Ryc. 2. Ocena kompetencji położnych w zależności od wieku pary

wife to refer patients to specialists for consultations, 24% of those aged >35 expressed such a wish, while only 12% of those aged <30 agreed ($p = 0.02$; χ^2 Pearson's test) – Fig. 3. Respondents in the 30–35-years-of-age group significantly more often than respondents in the <30 age group stated that they would like the midwife to refer them to specialists for consultations.

In small towns, midwives did not carry out activities such as preparing an appropriate diet regimen, making USG examinations or referring to specialists for consultation. Fifteen percent of the surveyed couples from rural areas had USG performed by a midwife, while only 4% of the surveyed couples from big cities had such experience ($p = 0.04$; χ^2 Pearson's test). Respondents from rural areas significantly more often than respondents from large cities indicated that they had USG examination performed by a midwife. For 10% of the surveyed couples from rural areas and only 2% of couples from large cities, the midwife provided education on lifestyle affecting fertility ($p = 0.30$; χ^2 Pearson's test) – Fig. 4.

Only 21% of the surveyed women with higher education and 36% of women with secondary and vocational education believed that the midwife's competences include teaching the observation of the menstrual cycle ($p = 0.37$; χ^2 Yates's test); 8% of women with higher education and 14% of women with secondary and vocational education indicated that the midwife's competences include referring for examination ($p = 0.80$; χ^2 Yates's test). Among the surveyed women, 23% with higher education and 14% with secondary and vocational education believed that

the competences of the midwife include education on lifestyle affecting fertility ($p = 0.70$; χ^2 Yates's test). Only 4% of women with higher education and 7% of women with secondary and vocational education indicated the answer that the competences of a midwife include performing an USG examination ($p = 0.79$; χ^2 Yates's test) – Fig. 5.

Among the surveyed men, 26% with higher education and 11% with secondary and vocational education believed that the competences of the midwife include education on lifestyle affecting fertility ($p = 0.09$, the χ^2 NW test). Among the surveyed men, 16% with higher education and 7% with secondary and vocational education indicated that the competences of a midwife include preparing an appropriate diet regimen ($p = 0.42$; χ^2 Yates's test). Only 5% of men with higher education and 4% of men with secondary and vocational education considered the performance of USG examination as a part of the competences of the midwife ($p = 0.86$; χ^2 Yates's test) – Fig. 6.

One quarter of the surveyed women with higher education and only 7% of the women with secondary and vocational education would like the cytology and endocervical culture to be performed by a midwife ($p = 0.25$; χ^2 Yates's test). Among the surveyed women, 38% with higher education and only 28% with secondary and vocational education had the need for a midwife to prepare an appropriate diet regimen ($p = 0.50$; χ^2 Pearson's test), 24% of women with higher education and only 14% of women with secondary and vocational education showed the need for a midwife to refer patients ($p = 0.64$; χ^2 Yates's test), while 31% of women with higher education and only 21% of women with sec-

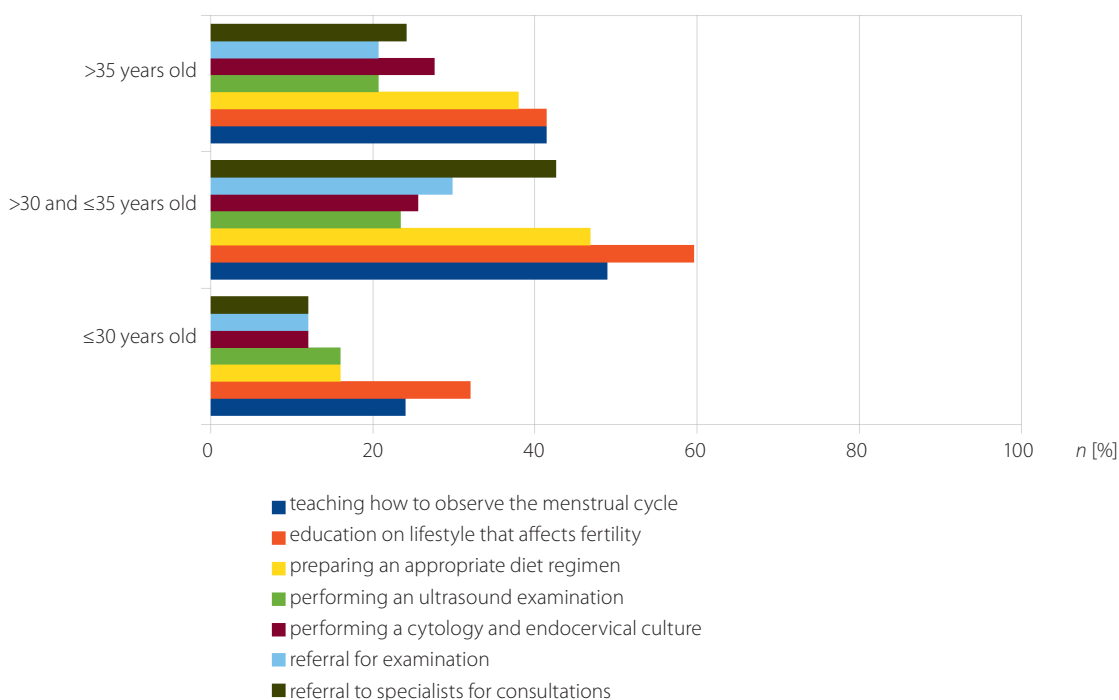
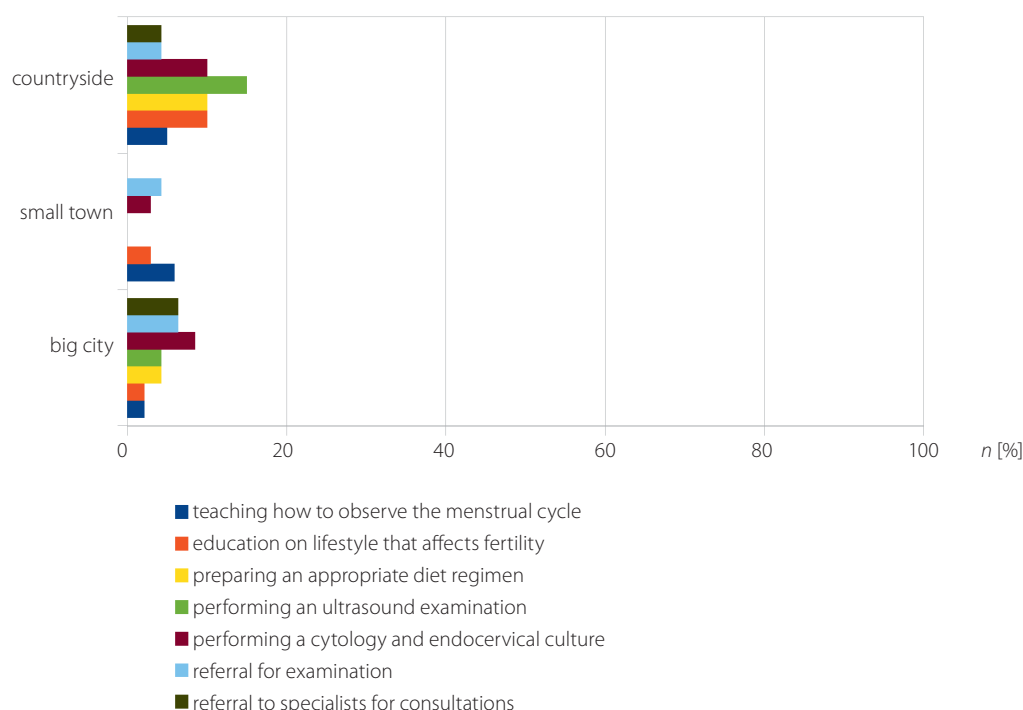


Fig. 3. Assessment of the needs of infertile couples in regard to midwifery care depending on the couple's age

Ryc. 3. Ocena potrzeb nieplodnych par w zakresie opieki przez położną w zależności od wieku pary



Ryc. 4. Assessment of activities performed by the midwife during infertility treatment depending on the respondents' place of residence

Fig. 4. Ocena czynności wykonywanych przez położną w terapii niepłodności w zależności od miejsca zamieszkania respondentów

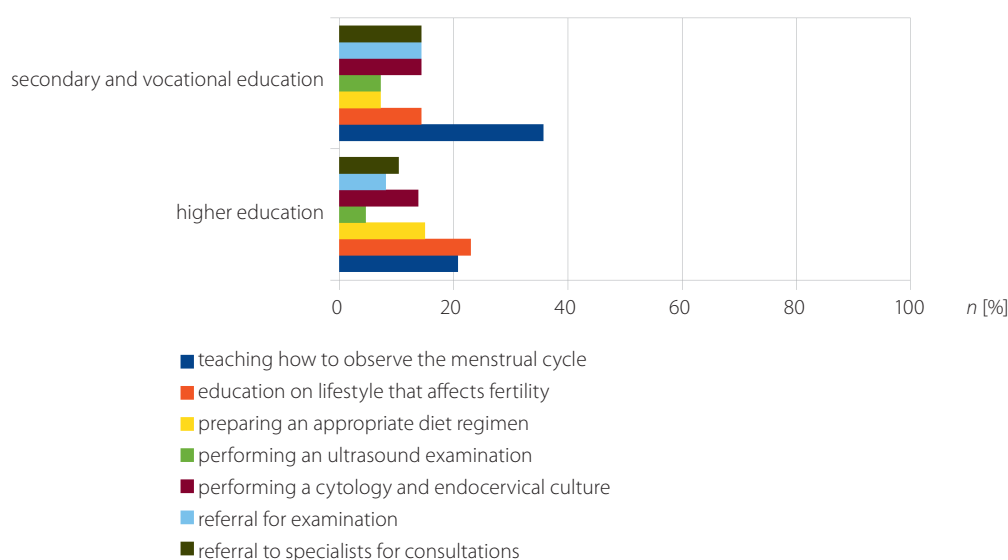


Fig. 5. Assessment of the competences of midwives depending on the women's level of education

Ryc. 5. Ocena kompetencji położnych w zależności od wykształcenia kobiet

secondary and vocational education expressed the need for the midwife to refer them to specialists as part of her professional practice ($p = 0.68$; χ^2 Yates's test) – Fig. 7.

Among the surveyed men, 26% with higher education and 15% with secondary and vocational education would like their partner's midwife to perform cytology and endocervical culture ($p = 0.25$; χ^2 Pearson's test). Among the surveyed men, 19% with higher education and 26% with

secondary and vocational education expressed the need for USG examination to be performed by the midwife ($p = 0.44$; χ^2 Pearson's test) – Fig. 8.

Small differences have been observed in the assessment of the role of the midwife in the care of the infertile couple depending on age, education, and the couple's place of residence, which may be treated as a prognostic method. Due to, among other things, the small size of individual

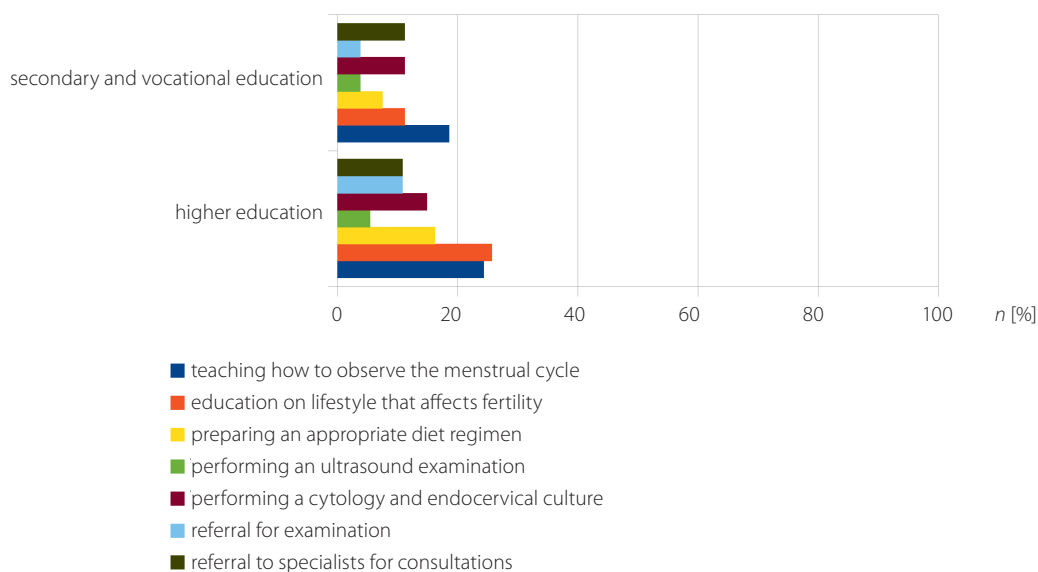


Fig. 6. Assessment of the competences of midwives depending on the men's level of education

Ryc. 6. Ocena kompetencji położnych w zależności od wykształcenia mężczyzn

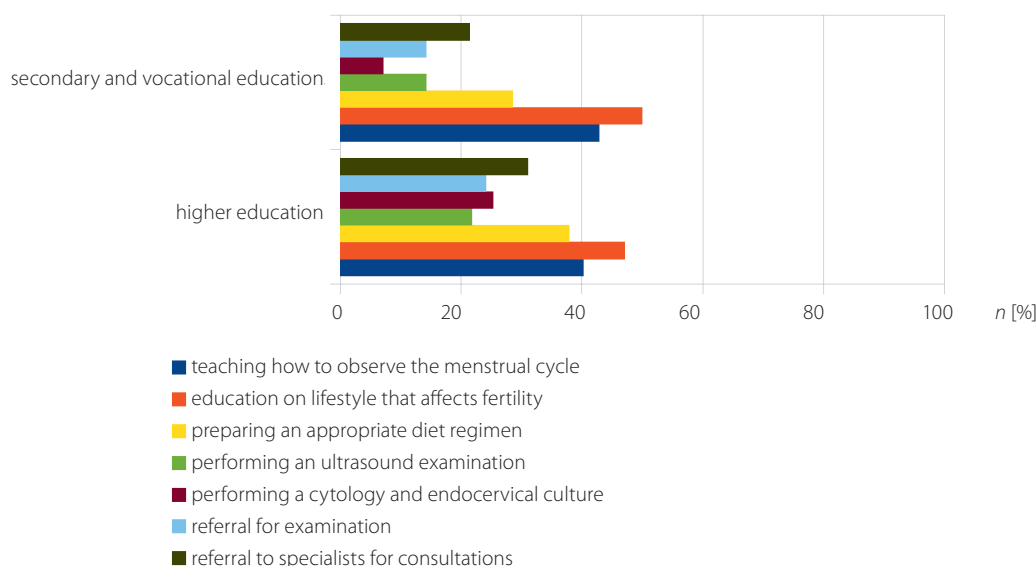


Fig. 7. Assessment of the needs of infertile couples in regard to midwifery care depending on the women's level of education

Ryc. 7. Ocena potrzeb nieplodnych par względem opieki przez położną w zależności od wykształcenia kobiet

groups, statistical significance of some of these relationships was not demonstrated. It would be advisable to continue the study with the inclusion of more subgroups.

Conclusions

The midwife may be an important member of the therapeutic team that takes care of the infertile couple; however, most respondents do not recognize the role of the midwife in the process of diagnosing and treating infertility.

The competences of midwives are higher than those currently used in their professional work, including, e.g., working with patients with diagnosed partner infertility.

Because the patient environment is not well informed about the services that a midwife can provide, education in this area should be strengthened.

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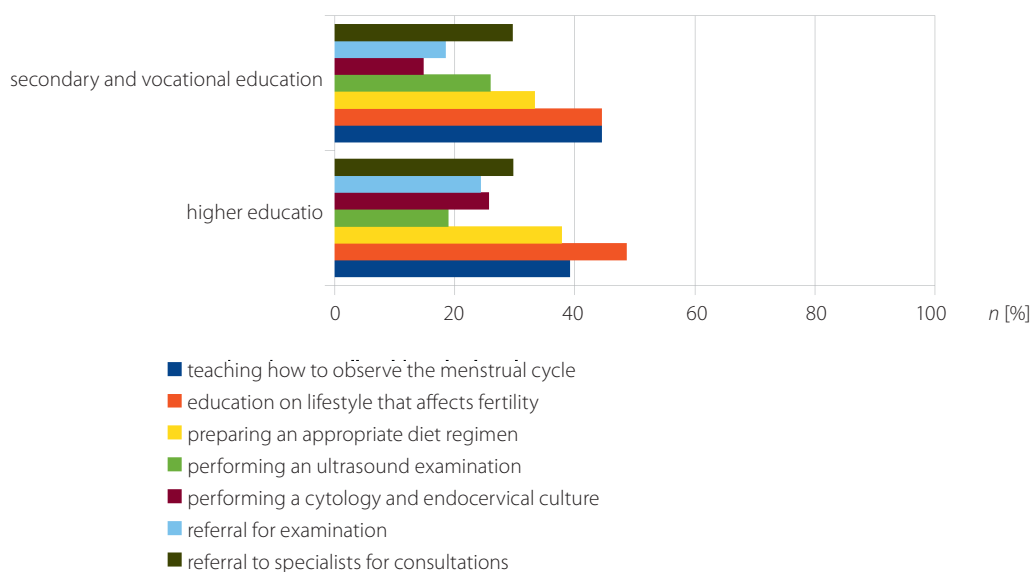


Fig. 8. Assessment of the needs of infertile couples in regard of midwifery care depending on the men's level of education

Ryc. 8. Ocena potrzeb niepełnych par względem objęcia nad nimi opieki przez położną w zależności od wykształcenia mężczyzn

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