

## WOMEN'S SEXUAL HEALTH

## Sexual Dysfunction in Menopausal Women



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## ABSTRACT

**Introduction:** Hormone-related changes in menopause may negatively affect sexual function.

**Aim:** The primary aim of this study was to evaluate sexual functioning in Polish women with the Female Sexual Function Index (FSFI). The secondary aim was to evaluate the major factors affecting sexual functions in middle-aged Polish women.

**Methods:** The Menopause Rating Scale was used to assess the menopausal symptoms. The Polish translation of the FSFI was used to assess sexual function.

**Outcomes:** 69.73% of respondents had sexual dysfunction according to FSFI (FSFI score  $\leq 26.55$ ).

**Results:** 80.61% of women experienced menopausal symptoms during the 4-week period of study. Psychological and urogenital symptoms were the most frequently reported among all the women enrolled in the study (78.23% and 77.21%). Sexual problems were observed in women who did not use hormone therapy ( $\beta = 0.09$ ,  $t = -1.97$ ,  $P = .048$ ) and showed no somatic symptoms ( $\beta = 0.03$ ,  $t = 2.95$ ,  $P = .002$ ).

**Clinical Implications:** It is important for health care providers to ask women about this problem and understand the factors that may influence sexual problems in menopause.

**Strengths & Limitations:** A validated survey tool was used. The limitation was selection of participants in the clinical setting and sample population size.

**Conclusion:** Sexual problems were much more common in women who did not use hormone therapy and showed no somatic symptoms. **Dąbrowska-Galas M, Dąbrowska J, Michalski B. Prevalence and Associated Risk Factors of Sexual Problems Among Polish Middle-Aged Women. Sex Med 2019;7:472–479.**

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**Key words:** Menopause; MRS; FSFI; Sexual Problems

## INTRODUCTION

Menopause is a normal physiological change occurring in a woman's midlife. However, menopause brings numerous biopsychosocial changes, such as vasomotor, physical, physiological, and sexual problems, which consequently reduce quality of life and sexual satisfaction.<sup>1–6</sup>

Sexuality is an important component of a woman's life; however, multiple genetic, biological, emotional, hormonal, and

social factors may influence female sexual function. Sexual behavior should be also considered in the context of relations with a partner, male sexual dysfunction, and drug consumption.<sup>1,7,8</sup> Sexual problems increase with age, reduction of estrogen levels, and natural menopause transition.<sup>9,10</sup> Thus, both increasing age and natural menopause have a significant negative impact on sexuality, especially libido, arousal, orgasm, desire, and sexual activity, whereas physical activity positively influences sexual function.<sup>6,11</sup> Estrogen plays an important role in awareness and receptivity of sexual activity. Reduced levels of estrogen in middle-aged women can cause a decline in sexual activity, as well as vaginal dryness related to pain during sexual intercourse.<sup>12–14</sup> Urogynecologic problems such as pelvic floor muscle weakness, urinary incontinence, and pelvic body prolapse are serious public health problems that may have negative effects on sexual function and quality of life.<sup>15,16</sup>

It has been shown that the use of hormone therapy (HT) improves sexual function in menopausal women.<sup>17</sup> HT significantly improved orgasm, lubrication, and pain relief.<sup>18</sup> However,

Received November 8, 2018. Accepted June 16, 2019.

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<https://doi.org/10.1016/j.jsxm.2019.06.010>

the specific role of HT remains unclear. It was also demonstrated that the use of HT during menopause is the main risk factor associated with sexual dysfunction in sexually active menopausal women.<sup>18,19</sup> Low sexual function can have a negative influence on the quality of life and can be correlated with low satisfaction, lack of happiness, economic factors, and life stressors. Therefore, these specific factors should be taken into consideration when offering specific interventions during menopause.<sup>20–22</sup>

The prevalence of sexual problems in menopausal women was earlier reported by other authors.<sup>21,22</sup> A literary review did not find research examining the relationship between sexual function and severity of menopausal symptoms in Polish women with the Female Sexual Function Index (FSFI) and the Menopause Rating Scale (MRS).

The primary aim of this study was to evaluate sexual functioning in Polish women with FSFI. The secondary aim was to evaluate the major factors affecting sexual function in middle-aged Polish women.

## MATERIALS AND METHODS

### Study Population

320 Polish women aged 40–65, who attended 1 of 2 randomly selected women's health clinics in Silesia, Poland, for their periodical gynecologic outpatient checkups were recruited in this cross-sectional study in 2014. All women gave their informed consent to participate in the study. Participation was voluntary and anonymous. The main investigator met with the physicians in each of the selected clinics to discuss the aim of the study and the data collection protocol. All women who met the inclusion criteria were enrolled into the study on admission to the clinic. Participants who met the criteria were informed about the study. Guidance on how to answer questions in each section was given to all participants. Delivery and return of the questionnaire took place in the clinic.

The inclusion criteria were age 40–65 years, having a regular sexual partner during the previous 4 weeks, and consent to participate in the research. Pregnant women were excluded from the study, whereas other exclusion criteria were physical problems related to spinal cord injury, paralysis, history of antidepressant use, history of psychiatric disorders, partner's sexual dysfunction, and unwillingness to participate in the study.

The periods of menopause were divided into premenopause (regular menstrual bleeding in the last 12 months), perimenopause (irregular menstrual bleeding in the last 12 months), and postmenopause (no menstrual bleeding in the last 12 months).<sup>23–25</sup> The study protocol was reviewed and approved by the Bioethical Committee of the Medical University of Silesia in Katowice (KNW/002/KB1/112/14).

### Methods

Participants were asked to complete a questionnaire containing sociodemographic information, along with gynecologically

validated tools to evaluate the menopausal symptoms and sexual function. The general questionnaire included questions about age, educational level, marital status, body mass, height, general health, relations with a partner, the use of hormone therapy or any alternative treatment for menopause, educational level, tobacco and alcohol use, date of last menstruation, and menopausal status.

The MRS was used to assess the menopausal symptoms. The scale ensures documented credibility, sensitivity, reliability and duplication of results. The MRS has been standardized and provided in many languages, including Polish, to differentiate among the menopausal symptoms in women. Validated over the years by multiple centers, the MRS has become a reliable tool to assess the full range of severity of menopausal symptoms. Subjective complaints in each of the 11 items are classified into 3 domains: psychological (4 symptoms: depressed, irritable, anxious, exhausted), somatic (4 symptoms: sweating or hot flushes, cardiac complaints, sleeping disorders, joint and muscle complaints), and urogenital symptoms (3 symptoms: sexual problems, urinary problems, and vaginal dryness). Severity of each of the symptoms ranges from 0 (absent)—4 (very severe). The total score is the sum in each of the domains (psychological 0–16 points, somatovegetative 0–16 points, urogenital 0–12 points) and in total 0 (asymptomatic)—44 (highest degree of complaints).<sup>26</sup>

The Polish translation of the Female Sexual Function Index (FSFI-19) was used to assess sexual function. The FSFI has been standardized and provided in many languages, including Polish, to differentiate among the sexual functions in women, aged 18–70 years, in line with up-to-date classifications and recommendations made by scientific associations. The FSFI is a validated standardized questionnaire to assess the sexual function among women during the previous 4 weeks. This tool consists of 19 questions assessing 6 dimensions of female sexual function: sexual desire, arousal, lubrication, orgasm, satisfaction and pain in the previous 4 weeks. The domains assessed in the questionnaire include the following: desire (2 items), arousal (4 items), lubrication (4 items), orgasm (3 items), satisfaction (3 items), and pain (3 items). The questions are scored from 0–5 (arousal, lubrication, orgasm, and dyspareunia) and from 1–5 (desire and sexual satisfaction). The total FSFI score, obtained from the sum of the items in each domain multiplied by the domain factor (0.6 for desire, 0.3 for arousal and lubrication, and 0.4 for orgasm, satisfaction, and pain), ranges from 2–36. Higher scores indicate better sexual function. Women with sexual problems obtain total scores  $\leq 26.55$ .<sup>27,28</sup> Both questionnaires (MRS and FSFI) offer credibility, sensitivity, reliability, internal consistency, as well as stability and repeatability of the results evaluating the disorders of sexual desire, sexual arousal, orgasm, and dyspareunia (FSFI) and the menopausal symptoms (MRS).<sup>29</sup>

### Statistical Analysis

Statistica software (Statistica version 10; StatSoft Polaska, Krakow, Poland) was used to perform the analyses. Data were

expressed as means, SD, and percentages. The data analysis was performed by *t*-testing and 1-way ANOVA. The Shapiro-Wilk test was used to determine normality of data distribution. The Spearman correlation was used to measure the correlation between menopausal symptoms and sexual function. Stepwise multiple regression analysis was used to evaluate correlation between such variables as age, body mass index, place of residence, economic status, satisfaction with life, frequency of exposure to stress, satisfaction with physical health, use of tobacco and alcohol, involvement in sports, number of pregnancies, number of births, gynecologic procedures, menopausal status, HT, urinary incontinence, age of sexual initiation, relationship with a partner, menopausal symptoms, and sexual problems.  $P < .05$  was assumed as statistically significant.

## RESULTS

320 women were enrolled in the study. Of these, 26 women did not submit complete information or refused to participate and were, therefore, excluded from the study, leaving 294 surveys for analysis. The mean age of the respondent was  $52 \pm 5.3$ . Most women were married (85.03%), living in populations  $>100,000$  (53.4%). 51.7% of women were perimenopausal, and 48.3% were postmenopausal. 9.52% of women used HT. Demographic characteristics of women evaluated in the study, including other health variables, are presented in Table 1.

Severity of menopausal syndromes according to subscale of the MRS is shown in Table 2. Among psychological symptoms, the largest group was women with mild symptoms (28.91). In the somatic domain, the largest group had no symptoms (35.03%). In urogenital domain, the largest group of women had severe symptoms (34.01).

In our sample, 30.27% of women scored  $>26.55$  (cutoff value) in FSFI, indicating healthy sexual functioning, whereas 69.73% of respondents had sexual problems (a FSFI score  $\leq 26.55$ ). The mean scores for FSFI domains are presented in Table 3. Higher scores in the FSFI domains indicate better sexual functioning. Satisfaction was the domain where the women obtained the highest score ( $3.87 \pm 1.8$ ), indicative of minor sexual problems. The lowest score, indicating major sexual problems, was observed in the “desire” domain ( $2.91 \pm 1.49$ ).

1-way ANOVA was used to determine significant differences in severity of menopausal symptoms and sexual function. The results showed a significant difference among the groups in the areas of desire, arousal, lubrication, orgasm, and satisfaction. Women with no menopausal symptoms, according to MRS, showed significantly greater desire ( $4.12, P = .01$ ), arousal ( $4.74, P = .01$ ), and better orgasm ( $5.01, P = .01$ ). The highest scores in the lubrication and satisfaction domains had women with mild menopausal symptoms (4.32 and 4.44). Additionally, when applying the post hoc analysis, significant differences were observed. This mostly occurred between the groups with no menopausal symptoms vs severe menopausal symptoms, as well as mild vs severe symptoms. No statistical

**Table 1.** Sociodemographic data of participants (n = 294)

Female data	No.
<b>Marital status</b>	
Married/with a partner	250
Single	14
Divorced	18
Widowed	12
<b>Place of living</b>	
Village	34
Country $<100,000$ residents	103
Country $>100,000$ residents	157
<b>Educational level</b>	
Elementary school	108
High school	108
University	78
<b>Economical situation</b>	
Very good	142
Good	141
Bad	11
<b>Body mass index</b>	
Normal: 18.5–24.9	158
Overweight: 25.0–30.0	107
Obese: $>30.0$	29
<b>Menopausal status</b>	
Perimenopausal	152
Postmenopausal	142
<b>Tobacco use</b>	
Yes	53
No	241
<b>Alcohol use</b>	
Yes	216
No	78
<b>HT use</b>	
Yes	28
No	266
<b>Relation with a partner</b>	
1: Bad	14
2: Average	195
3: Good	45
4: Very good	40
<b>Gynecology check-up</b>	
Every 3 months	66
Once every 6 months	177
Once a year	47
$<$ Once a year	4

significance between none and mild, as well as none and moderate, was observed (Table 4).

Table 5 shows the correlation analysis between menopausal symptoms and sexual function. There was a weakly significant negative correlation between desire and all items of the MRS (psychological [ $r = -0.26, P = .000$ ], somatic [ $r = -0.21, P = .000$ ], and urogenital [ $r = -0.19, P = .001$ ]), between arousal and all items of the MRS (psychological [ $r = -0.26,$

**Table 2.** The severity of menopausal symptoms (MRS scale), (n = 294)

Menopausal symptoms in MRS domains	None		Mild		Moderate		Severe	
	No.	%	No.	%	No.	%	No.	%
Psychological	64	21.77	85	28.91	77	26.19	68	23.13
Somatic	103	35.03	75	25.51	65	22.11	51	17.35
Urogenital	67	22.79	47	15.99	80	27.21	100	34.01
Total	57	19.39	75	25.51	87	29.59	75	25.51

MRS = Menopause Rating Scale.

$P = .000$ ], somatic [ $r = -0.30$ ,  $P = .000$ ], and urogenital [ $r = -0.21$ ,  $P = .000$ ]), lubrication and all items of the MRS (psychological [ $r = -0.17$ ,  $P = .04$ ], somatic [ $r = -0.25$ ,  $P = .000$ ], and urogenital [ $r = -0.20$ ,  $P = .001$ ]), as well as satisfaction and all items of MRS (psychological [ $r = -0.16$ ,  $P = .005$ ], somatic [ $r = -0.25$ ,  $P = .000$ ], and urogenital [ $r = -0.17$ ,  $P = .004$ ]). Regarding orgasm and pain, there was a weak significant negative correlation in all of the MRS domains ( $P < .05$ ), except for the psychological domain. The results demonstrated that the higher the menopausal symptoms, the worse were desire ( $r = -0.28$ ,  $P = .000$ ), arousal ( $r = -0.30$ ,  $P = 0.000$ ), lubrication ( $r = -0.24$ ,  $P = .000$ ), orgasm ( $r = -0.17$ ,  $P = .003$ ), satisfaction ( $r = -0.23$ ,  $P = .000$ ), and pain ( $r = -0.16$ ,  $P = .005$ ).

Results of the multiple regression analysis are given in Table 6. 22 variables, among others age, HT use, and the sociodemographic, psychological, lifestyle, and menopausal factors were correlated with FSFI. However, multiple regression analysis showed 2 factors significantly affecting the sexual function. The independent variables adopted in the model were explained in 87% of the total volatility of the dependent variable ( $r^2 = 0.87$ ). The value of the F-test statistic was 27.19. Negative numerical coefficients were found for all model predictors, clearly indicating that the variables HT and somatic symptoms depend on sexual dysfunction. Sexual problems were observed in women who did not use HT ( $\beta = 0.09$ ,  $t = -1.97$ ,  $P = .048$ ) and showed no somatic symptoms ( $\beta = 0.03$ ,  $t = 2.95$ ,  $P = .002$ ).

## DISCUSSION

It has now been recognized worldwide that sexual health is important for overall health and well-being.<sup>13,30–33</sup> This study is the first to assess the menopausal symptoms with the use of MRS and sexual function using FSFI in Polish women. Sexuality is a multidimensional phenomenon, and many additional factors,

including cultural, psychological, social, and physical factors, may influence sexual functioning. Therefore, the interpretation of our results should take these factors into consideration.

Our results showed that 69.73% of women had sexual problems, and they are consistent with previously reported results.<sup>14,17,18,30–34</sup> Making use of the FSFI, the National Health and Social Life Survey reported sexual dysfunction in 43% of American women aged 18–59.<sup>35</sup> The differences may be due to the cultural nature or the willingness of patients to ask health care professionals about the possibility of treating this problem. A large number of menopausal women with sexual problems are unwilling to seek treatment, or some of them believe that “nothing can be done medically”.<sup>36</sup>

In our research, a vast majority of women who regularly visited the gynecologist, usually once every 6 months, were provided the opportunity to learn about menopause or sexuality from a specialist. In our research, we did not analyze such dependence; however, one can hypothesize that a large number of women with sexual problems may indicate that women have feelings of shame when discussing sexuality with their health care provider. Patients' willingness to ask questions about sexual dysfunction and information from the doctor may affect the patients' decision to start treatment to alleviate sexual disorders. However, such a relationship should be considered in greater detail in future studies, while taking the physician's opinion into account.

Our findings showed that women's sexual problems included desire, arousal, lubrication, orgasm, satisfaction, and pain. However, women aged 40–65 had the biggest problem with desire. This is consistent with the existing literature.<sup>37–39</sup> Negative effects of age on female sexual functioning were frequently reported in the literature.<sup>40</sup> Most of the previous studies' findings revealed a decrease in sexual desire and interest according to age.<sup>41,42</sup> In our study, however, we found that age was only related to sexual functioning without statistical significance.

**Table 3.** The FSFI-obtained results

	FSFI domain					
	Desire	Arousal	Lubrication	Orgasm	Satisfaction	Pain
Mean $\pm$ SD	2.91 $\pm$ 1.49	3.49 $\pm$ 1.77	3.55 $\pm$ 1.98	3.71 $\pm$ 1.98	3.87 $\pm$ 1.8	3.57 $\pm$ 1.93
Median	2.4	3.6	3.75	4.4	4.4	3.6

FSFI = Female Sexual Function Index.

**Table 4.** Mean scores of FSFI according to menopausal symptoms (MRS)

FSFI Domain	MRS				F	P value
	None (n = 57)	Mild (n = 75)	Moderate (n = 87)	Severe (n = 75)		
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD		
Desire	4.12 ± 1.46*	3.54 ± 1.47 <sup>†,‡</sup>	2.76 ± 1.45 <sup>§</sup>	2.31 ± 1.31	10.15	<.001
Arousal	4.74 ± 1.53 <sup>  </sup>	4.09 ± 1.5 <sup>‡</sup>	3.66 ± 1.66 <sup>¶</sup>	2.51 ± 1.94	12.55	<.001
Lubrication	3.57 ± 2.09	4.32 ± 1.63 <sup>‡</sup>	3.56 ± 2.01	2.76 ± 1.94	8.23	<.001
Orgasm	5.01 ± 2.01	4.28 ± 1.86 <sup>#</sup>	3.5 ± 2.04	3.14 ± 1.86	5.04	.002
Satisfaction	4.1 ± 1.71*	4.44 ± 1.81 <sup>‡</sup>	3.89 ± 1.84 <sup>¶</sup>	3.11 ± 1.6	7.77	<.0001
Pain	3.71 ± 2.02	3.98 ± 1.6 <sup>#</sup>	3.66 ± 1.99	2.92 ± 1.99	4.258	.006

FSFI = Female Sexual Function Index; MRS = Menopause Rating Scale.

\**P* < .05, none vs severe.

<sup>†</sup>*P* < .05, mild vs moderate.

<sup>‡</sup>*P* < .001, mild vs severe.

<sup>§</sup>*P* < .001, moderate vs severe.

<sup>||</sup>*P* < .001, none vs severe.

<sup>¶</sup>*P* < .05, moderate vs severe.

<sup>#</sup>*P* < .05, mild vs severe.

The results of other studies indicated that lubrication, dyspareunia, and arousal were the most affected domains.<sup>36,37</sup> The differences might be explained by many factors, such as psychosocial and cultural factors or the level of physical activity.<sup>14–17,39,43,44</sup> Further research should be conducted to determine sexual problems in different countries using the same research tool.

Our study also investigated how many Polish women, aged 40–65, have menopausal symptoms. The results showed that 25.51% of women had mild and severe menopausal symptoms, whereas almost 30% had moderate severity of symptoms. Urogenital problems represent the largest group of women with severe symptoms (34.01%). Our result showed that >65% of women had somatic menopausal symptoms, ranging from mild to severe. These included hot flashes, sweating, joint and muscle complaints, sleeping disorders, and cardiac complaints. This is consistent with most of the studies showing manifestations of hot flashes and joint and muscle discomfort in 40–60% of women aged 40–65.<sup>45–49</sup> The differences between the obtained results may be due to different attitudes toward menopause, the study inclusion criteria, aging, body shape, body mass, and level of physical activity. In Poland, a study by Kryś-Noszczyk et al,<sup>50</sup>

comprising 210 Polish women, showed that somatic and urogenital symptoms were the most severe. In the study by Janczura et al,<sup>51</sup> the highest level of severity of menopausal symptoms was observed in hot flashes and vaginal dryness. The results of the subgroups showed that women most often suffered from somatic, urogenital, and psychological menopausal symptoms.<sup>51</sup> The MRS results, which were confirmed by the previous studies, showed that urogenital and somatic symptoms were the most severe.

In the literature, there are no studies using the FSFI and MRS that examined the relationship between sexual function and severity of menopausal symptoms in Polish women. In our study, the total menopausal symptom scores were examined using these tools. Our study did not reveal poor negative correlation between the menopausal symptoms and sexual function. More severe menopausal symptoms correlated well with lower FSFI scores, indicating aggravated sexual problems. These results are consistent with those by Perez-Lopez et al,<sup>52</sup> who evaluated 179 sexually active women of the age same as in our group (40–65). The research tools used were the MRS and the 6-item FSFI. All MRS domains (somatic, urogenital, psychological) were more elevated in women with sexual problems (FSFI ≤ 26.5).<sup>52</sup> The

**Table 5.** Correlation between menopausal symptoms and sexual function in Polish women

Menopause symptoms (MRS scores)	Female Sexual Function Index											
	Desire		Arousal		Lubrication		Orgasm		Satisfaction		Pain	
	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>
Psychological	–0.26	.000	–0.26	.000	–0.17	.004	–0.11	.052	–0.16	.005	–0.10	.079
Somatic	–0.21	.000	–0.30	.000	–0.25	.000	–0.18	.002	–0.25	.000	–0.17	.003
Urogenital	–0.19	.001	–0.21	.000	–0.20	.001	–0.14	.014	–0.17	.004	–0.15	.010
Total	–0.28	.000	–0.30	.000	–0.24	.000	–0.17	.003	–0.23	.000	–0.16	.005

MRS = Menopause Rating Scale.



**Table 6.** The multiple regression analysis of variables influencing the presence of sexual problems in the studied population

Variable	Parameters				OR	LO	F	r <sup>2</sup>
	Estimation	Standard error	t value	P value				
(Intercept)	1.88	0.26	24.97	<.001*	0.26	0.78	27.19	0.87
HT	-0.17	0.02	-1.97	.048 <sup>†</sup>	0.02	0.30		
MRS.SOMAT	-0.09	0.15	2.95	.002 <sup>‡</sup>	0.15	0.78		

HT = hormone therapy; LO = log odds; MRS.SOMAT = Menopause Rating Scale - Somatic symptoms; OR = odds ratios.

\* $P < .001$ .

<sup>†</sup> $P < .05$ .

<sup>‡</sup> $P < .01$ .

results of the study including 151 women, aged 40–60, also showed that those with severe somatic and urogenital symptoms more commonly showed sexual problems.<sup>37</sup>

This study considered many factors such as age, body mass index, education, and multiple sociodemographic and lifestyle factors. These individual menopausal symptoms were independent significant predictors of sexual problems, and the multiple analysis of such symptoms did not explain sexual function. Women with no somatic symptoms were more likely to suffer from impaired sexual function.

A review of observational studies showed that HT users are less vulnerable to sexual problems; moreover, HT may improve sexual function in properly selected women.<sup>53</sup> Chedraui et al<sup>17</sup> showed that the use of HT could be a protective factor for the impaired sexual function of menopausal women. Our findings are comparable. Our results showed a significant difference in sexual function between women who used HT and those who did not. Sexual problems were much more prevalent in women who did not use HT, although only 9.52% of women used HT.

Other authors reported that menopausal HT use improved the quality of life, psychological well-being, vasomotor symptoms, and sexual function.<sup>54–56</sup> Nevertheless, Nastri et al<sup>53</sup> observed that HT treatment was associated with small to moderate improvement in sexual function.

Menopausal symptoms have a negative impact on the quality of life, regardless of menopausal status. The symptomatic treatment of menopausal symptoms is likely to improve sexual function in menopausal women and, consequently, the quality of their lives.<sup>21,57</sup>

### Strengths and Limitations of the Study

The strong point of the research was the use of FSFI, offering high reliability and validity. Using self-reporting questionnaires to evaluate sexual function and menopausal syndromes, women were encouraged to express the majority of their problems openly. The design of our study offers important information on the prevalence of sexual problems among middle-aged women in Poland. The results can provide valuable information for health care professionals working with women and guidance on what questions to ask during a gynecologic visit.

The limitation was selection of participants in the clinical setting and sample population size. A larger study group will probably demonstrate a statistically significant correlation between menopausal status and sexual disorders and behaviors; therefore, further studies with a larger sample size are needed to examine changes in sexual function over time and the associated factors. More studies using these instruments are warranted.

### CONCLUSIONS

Many women experience sexual problems during menopause. It is important for health care providers to ask women about such problems and to understand any factors that might influence these sexual problems in menopause. Our study supports the opinion evaluating sexual problems as a relevant issue in menopausal women. Although menopausal symptoms (psychological, somatic, urogenital) accompanying menopause were all significant independent predictors of impaired sexual function, they did not explain the sexual function in multiple analysis. Moreover, sexual problems were much more common in women who did not use HT and showed no somatic symptoms.

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*Conflict of Interest:* The authors declare no conflict of interest.

*Funding:* None.

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