INTRODUCTION

Dysmenorrhea refers to symptoms associated with menstruation, such as abdominal pain, cramp and lumbago, that interfere with daily activity. Affected women experience a sharp, intermittent spasmodic pain usually concentrated in the suprapubic area. Pain may radiate to the back of the legs or the lower back. Mood swings, fatigue, headache, nausea and edema during menstruation are comorbidity with dysmenorrhea [1,2]. The pain usually begins between several hours before and a few hours after the start of the menstrual bleeding. Symptoms get worse with higher blood pressure and usually last less than a day, but the pain may continue for 2 to 3 days [2]. Painful menstruation has a strong negative effect on the well-being and mood of a woman, thus, hindering the quality of life.

Dysmenorrhea is categorized into two types, primary and secondary. Primary dysmenorrhea refers to menstrual pain without underlying pathology, whereas secondary dysmenorrhea refers to painful menstruation associated with other diseases.

The etiology of primary dysmenorrhea includes an excess or imbalance of the prostaglandin (PG) secretion from the endometrium during the menstruation. PG levels in the endometrium in the late secretory phase are 3 times higher compared to the proliferative phase. A further increase in PG levels is observed during the menstrual phase. PGE2 and PGF2a alpha concentrations are higher in the menstrual fluid of women with dysmenorrhea than in that of women with painless periods. Among PGs, PGF2a is considered the most potent causal factor of pain [1].

THE RISK FACTORS OF DYSMENORRHEA IN YOUNG WOMEN

CZYNNIKI RYZYKA BOLESNEGO MIESIĄCZKOWANIA U MŁODYCH KOBIET

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ABSTRACT

The Aim: To evaluate risk factors for dysmenorrhea in women of reproductive age and to review its characteristics.

Material and Methods: A questionnaire was conducted among 354 women followed by a statistical analysis of the gathered data.

Results: Among the interviewed women 84.2% suffer from painful menstruations. Women under 25 years of age are more likely to experience pain, which reduces with age. Dysmenorrhea is more common among women whose menstrual cycles are irregular (92.5%) with a number of bleeding days 4–7 (90.7%), though still occurring within the normal 21–35 days interval (87.6%). Nulliparous women are more likely to experience menstrual pain (89.9%).

Conclusion: Dysmenorrhea depends on women's age, length of menstrual bleeding, length of menstrual cycle and its regularity, age at menarche and parity, but does not depend on body mass index and smoking status.

KEY WORDS: dysmenorrhea, painful menstruation, menstrual cycle, young women

STRESZCZENIE

Cel pracy: Ocena czynników ryzyka bolesnego miesiączkowania u kobiet w wieku rozrodczym i dokonanie przeglądu jego cech.

Materiał i metody: Ankiety przeprowadzono wśród 354 kobiet z następującą analizą statystyczną zebranych danych.

Wyniki: Wśród badanych kobiet 84,2% cierpi na bolesne miesiączki. Kobiety w wieku poniżej 25 lat częściej doświadczają bólu, który zmniejsza się wraz z wiekiem. Dysmenorrhea występuje częściej u kobiet, u których cykle miesięczkowe są nieregularne (92,5%), z liczbą 4–7 dni krwawień (90,7%), choć nadal występują w normalnym zakresie 21–35 dni (87,6%). Nieródki są bardziej narażone na bóle menstruacyjne (89,9%).

Wnioski: Dysmenorrhea zależy od wieku kobiet, długości krwawień miesięczkowego, długości cyklu i jego regularności, wieku pierwszej miesiączki i porodów, ale nie zależy od wskaźniku masy ciała i palenia.

SŁOWA KLUCZOWE: dysmenorrhea, bolesne miesiączki, cykl miesięczkowy, młode kobiety

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Primary dysmenorrhea almost always occurs in women younger than 20 years old after their ovulatory cycles become established. Secondary dysmenorrhea is more common in women who are older than 20 years [3]. There may also be a difference in the clinical symptoms - in the case of secondary dysmenorrhea, the pain may intensify at the end of the menstrual period.

**AIM**
To review the peculiarities of dysmenorrhea and its prevalence among young women of childbearing age and to compare the research results with the findings from the literature.

**METHODS**
A questionnaire was conducted in January 2018. 354 respondents who were surveyed anonymously online were presented with a "Pain during menstruation" questionnaire, which consisted of questions related to a participant's age, height, weight, smoking status, gynecological diseases, consistency of the menstrual cycle, length of the cycle and bleeding, age at menarche, changes in pain after childbirth. For the assessment of pain, an 10-point visual analog scale (VAS) was provided.

Women were divided into four age groups: <20, 20-24, 25-29 and ≥30 year, as well as into four BMI groups: un-
The prevalence of dysmenorrhea reported in the literature varies substantially. A greater prevalence of dysmenorrhea was generally observed in young women, 67% to 90% among those aged 17–24 [3]. In Australia, 93% of girls reported pain during menstruation [4]. The studies of adult women are less consistent in reporting the prevalence of dysmenorrhea and often focus on a specific group, with rates varying from 15% to 75%. A severe pain sufficient to limit daily activities is considerably less common, affecting approximately 7%–15% of women, although the study of adolescents and young adults, 26 years or less, reported that 41% of the participants had limitations in their daily activities due to dysmenorrhea [3]. Whereas in our study, of the 190 young women (under 25 years old) who were surveyed, 88.9% suffer from dysmenorrhea, and severe pain was experienced by 24.7%, rated at 7 to 10 points by VAS. The results are similar to the data from the literature - dysmenorrhea is a statistically more common problem for young women [3, 5, 6].

The studies that look at how BMI influence dysmenorrhea present different results. In one study, the relation between dysmenorrhea and BMI was found to be significant (p < 0.01) with increased prevalence in the low BMI group. Hence, improving the nutritional status of adolescent girls may reduce dysmenorrhea [7, 8]. In other studies, no statistically significant relationship was found between a BMI and dysmenorrhea - dysmenorrhea is a statistically more common problem for young women [3, 5, 6].

One of the risk factors for dysmenorrhea reported in the literature is smoking. The conclusion is that dysmenorrhea is more common among smokers [5, 11, 12]. A study in Georgia shows that the prevalence of dysmenorrhea was significantly higher among smokers, 3.99% compared with non-smokers 0.68% (p = 0.05) [11]. However, in our study, we didn't find a significant relationship between smoking status and dysmenorrhea (p = 0.631).

Contradictory results also appear in the relationship between the age of menarche and the manifestation of dysmenorrhea. Some authors identify the first incidence of menstruation at an early age as a risk factor for dysmenorrhea.
The risk factors of dysmenorrhea in young women

[13–15]. Pathogenesis of early dysmenorrhea suspects that after the age of 12 the cycle becomes ovulatory a year later, and therefore painful. For women with a later menarche, menstrual cycles become ovulatory after 3 to 5 years and then dysmenorrhea occurs [16]. Our results also support this relationship (p = 0.037). However, there are studies in which the relationship between early menarche and dysmenorrhea was not detected [5, 17, 18]. The authors of a Canadian study mention a possible error in the remembrance of the menarche at the time of filling the questionnaire [5]. In addition, based on 2017 study made in the U.S.A, the bleeding after anovulatory cycles may be as painful as ovulatory [19].

According to the literature and the results of our study, prolonged bleeding and longer than 35 days menstrual cycles are associated with dysmenorrhea [14, 17, 20]. The risk factors for dysmenorrhea also include an irregular cycle [15, 16], as also supported in our study. Intense bleeding is the most common risk factor for menstrual pain, meanwhile the duration of the menstrual cycle (p <0.05) [6] or cycle irregularity (p = 0.91) [21] does not always reach statistical significance in the studies' thresholds.

There is no strong consensus among the authors on the link between birth status and dysmenorrhea. Some sources claim there is no link between the birth status and painful menstruation [5, 22], others say that there is, and it is less painful [23]. The relationship between parity or number of live births and dysmenorrhea was reported in 9 studies. Despite different categorizations used for parity, results were consistent, demonstrating a significant negative correlation between increased parity or number of live births and the risk of dysmenorrhea [3]. Overall, a term delivery had a higher likelihood of improvement in dysmenorrhea than a preterm delivery, and a spontaneous delivery was more beneficial than a cesarean delivery. Additionally, dysmenorrheic patients were most likely to see improvement after the first delivery compared to the second or third deliveries. Patients with the first delivery and in the spontaneous delivery subgroup were the most likely to see the reduction in the severity of dysmenorrhea [23].

The limitation of our study is a relatively small number of women whose menstrual bleeding or cycle duration was shorter or longer than normal (4-7 bleeding days and 21-35 days of menstrual cycle), thus, the results with these factors may be inaccurate. We think that more overweight and underweight women should be questioned to get a better understanding of the importance of these two factors.

CONCLUSION

Among the interviewed women, 84.2% experience painful menstruation. Nulliparous women and women under the age of 25 are more likely to suffer from dysmenorrhea and experience stronger pain. It is also more common for women whose menarche started before or at 12 years of age, with prolonged bleeding, for more than 7 days, and the menstrual cycles are rare and irregular. No statistically significant relationship between dysmenorrhea and BMI or smoking was found.

REREFENCES


