

PSYCHOPHYSICAL PROBLEMS OF PERI- AND POSTMENOPAUSAL WOMEN – AN URGENT PUBLIC HEALTH CHALLENGE

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Abstract. The peri – and postmenopausal period is one-third of the average woman's life. Despite its physiological nature, it is usually associated with a number of ailments that consequently weaken a woman's psychophysical condition. The emergence of disorders in the psychological and somatic spheres can make it more difficult among women to perform social, domestic and professional functions, including those falling under labour law. The appearance of symptoms of anxiety and depression is much more common among women than men, and the duration of the COVID-19 epidemic has exacerbated health problems, often causing new difficulties especially in the aspect of mental health of postmenopausal women, creating a new and urgent challenge for state bodies responsible for prevention programs to create a comprehensive pilot project in this area of public health.

Keywords: menopause; disorders; insomnia; mental health; COVID-19

INTRODUCTION

With advances in medicine and the development of a social economy, women's life expectancy continues to increase, thanks to which the population of older women in many countries is becoming increasingly large. The number of peri-menopausal women (aged 45-55) in Poland is about 2.6 million – which is a population that is experiencing changes related

to the decline of ovarian hormonal function.¹ However, the topic of menopause also applies to women who have already gone through it – the lack of estrogen causes changes in the body leading to the appearance of many diseases: hypertension, diabetes, hypercholesterolemia, obesity, dementia, vaginal atrophy, osteoporosis. Moreover, nowadays women in their 50s are required to be fully physically, intellectually and socially active. According to a World Health Organization (WHO) report, by 2030 the number of peri-menopausal women will reach 1.2 billion. It is estimated that about one-third of a modern woman's life is spent after menopause [Hill 1996; Afshari, Bahri, Sajjadi, et al. 2020].

According to the nomenclature of the North American Menopause Society (NAMS), menopause is defined as the cessation of menstruation resulting from the loss of ovarian hormonal function. It is diagnosed after 12 months of amenorrhea, with the exclusion of all possible disorders that may be responsible for the prolonged absence of menstruation. The Stages of Reproductive Ageing Workshop's (STRAW) seven-phase model characterizing reproductive status in healthy women treats menopause as a reference point for five stages before its onset and another two after its onset: 1) stages – 5 to – 3 contain the reproductive phases, when menarche occurs, followed by a regular menstrual cycle, 2) stage – 2 is the early menopausal transition, the menstrual cycle remains regular, but there are changes in its length, 3) stage – 1 is a late menopausal transition, characterized by the occurrence of two or three missed menstrual periods and at least one interval between menstrual periods of at least 60 days, 4) stage +1 is early menopause, refers to 4 years after the last menstruation, 5) stage +2 is late menopause, representing a period of subsequent years [Santoro and Taylor 2011; Harlow, Gass, Hall, et al. 2012].

The timing of the onset of menopause is individual to each woman, and appears to be to the greatest degree, genetically determined [Kaczmarek 2007]. To some extent, the timing of menopause may be determined by factors such as; race, economic and social status, BMI, or comorbidities [Gold 2011; Schoenaker, Jackson, Rowlands, et al. 2014]. It has also been speculated that smoking, post chemotherapy status or pelvic irradiation may accelerate its onset.

Determining the age at which women go through menopause poses some difficulties, since studies are usually retrospective, and data is obtained using a survey questionnaire. Comparing the age of menopause of women from Poland and other countries in Europe, the US, and Australia, it seems that the age of natural menopause is similar. However, when juxtaposing the population of Polish women with women from African and Asian

¹ See https://demografia.stat.gov.pl/Baza_Demografia/Tables.aspx [accessed: 24.03.2023].

countries (excluding Japan), the results indicate that women in Poland go through menopause at an older age [Rumianowski, Brodowska, Karakiewicz, et al. 2012].

A cross-sectional histological study of ovaries showed that, along with chronological aging, the stock of ovarian follicles (ovarian reserve) decreases from a peak of 500,000-1,000,000 primary follicles at birth to about 1,000 at menopause [Gougeon, Ecochard, and Thalabard 1994]. According to reports, the rate of decline in the number of non-growing follicles progressively increases with age—for example; loss of ovarian follicles occurs more rapidly between the ages of 38-39 than between 30-31 [Hansen, Knowlton, Thyer, et al. 2008].

Menopause is associated with a number of disturbances in the psychological and somatic spheres, which can impede the performance of social, professional and family functions. In the peri-menopausal period, there are specific symptoms associated with hormonal changes (e.g., hot flashes, sweats), non-specific somatic symptoms (muscle and joint pain, dizziness, numbness) and psychological symptoms characteristic of anxiety (e.g., anxiety, agitation, sleep disturbances) and depression (e.g., sadness, tearfulness, loss of energy). The severity and duration of symptoms vary individually, depending largely on a woman's mental state and the subjective meaning attributed to menopause [Paramsothy, Harlow, Nan, et al. 2017].

The most common problems of the peri-menopausal period are vasomotor symptoms, atrophic changes in the genitourinary system, osteoporosis, cardiovascular disease, neoplasms, cognitive disorders and sexual problems. Vasomotor (night sweats, hot flashes) and psychological (lowered mood) complaints are referred to as menopausal syndrome symptoms [Hamoda, Panay, Pedder, et al. 2020; O'Neill and Eden 2012].

Statistically, as many as 80% of women experience menopausal transition symptoms, and for a third of them they are of an aggravated character [ibid.]. Most commonly mentioned are vasomotor symptoms (hot flashes and night sweats), dyspareunia, frequent urination, urinary urgency, incontinence, brain fog, joint pain, dry skin/eyes, and adverse changes in skin and hair. It appears that the earlier development of these complaints during the menopausal transition may mean a longer duration of troublesome symptoms [Talaulikar 2022; Paramsothy, Harlow, Nan, et al. 2017].

1. VASOMOTOR SYMPTOMS

Among Caucasian women, hot flashes and night sweats are the most common menopausal symptoms, and their severity and frequency can be individually variable [Hamoda, Panay, Pedder, et al. 2020]. Studies show that

Asian women are least likely to experience vasomotor symptoms [O'Neal and Eden 2012; Martín-Salinas and Lopez-Sobaler 2017]. It seems that vasomotor symptoms specifically contribute to a reduced quality of life due to sleep disturbances, chronic fatigue, and lowered mood [Gracia and Freeman 2018]. In addition, the presence of severe and persistent vasomotor symptoms is associated with an increased risk of the appearance of cardiovascular disease [El Khoudary and Thurston 2018; Szmuiłowicz, Manson, Rossouw, et al. 2011]. The duration of exposure to vasomotor symptoms for most women is in the range of 1-6 years, but sometimes (10-15% of women) may experience them for up to 15 years or longer [Avis, Crawford, Greendale, et al. 2015].

Besides racial and ethnic differences, the frequency/severity of hot flashes can be influenced by genetic predisposition, socio-cultural differences, and a diet rich in soy-which has a protective effect. Among factors that can exacerbate symptoms are included smoking, obesity and physical inactivity [Martín-Salinas and Lopez-Sobaler 2017; O'Neill and Eden 2012].

2. GSM – GENITOURINARY SYNDROME OF MENOPAUSE

In 2013, experts from two scientific societies, The North American Menopause Society (NAMS) and the International Society for the Study of Women's Sexual Health (ISSWSH), proposed a new terminology for postmenopausal atrophic changes, introducing the term – genitourinary syndrome of menopause (GSM).

Appearing alongside the menopausal transition, gradual estrogen deficiency leads to atrophic changes, i.e.; atrophy of the vaginal epithelium, decreased elasticity and size of the vagina, changes in the vaginal bacterial flora, increased vaginal pH, vulvar and clitoral atrophy, atrophic changes in the urethral epithelium, decreased filling of the periurethral venous plexus and increased activity of the bladder detrusor muscle [Baranowski, Dębski, Paszkowski, et al. 2011]. Nearly 50% of menopausal women experience bothersome symptoms of urogenital atrophy (UGA) in the form of pruritus and burning of the vulvar area, dyspareunia, recurrent vaginal and urinary tract infections or dysuria [Wielgoś, Mazanowska, and Pietrzak 2013; Capobianco, Wenger, et al. 2014; Alvisi, Gava, Orsili, et al. 2019; Hamoda, Panay, Pedder, et al. 2020].

Moreover, under physiological conditions Lactobacilli species constitute the predominant bacterial flora of the vagina while being the host's innate defense against pathogens. The function of estrogen is to stimulate the proliferation of Lactobacilli in the vaginal epithelium, which reduces the pH and prevents the colonization of the vagina by bacteria from

the Enterobacteriaceae groups, the main pathogen of urinary tract infections [Capobianco, Wenger, et al. 2014]. The vaginal microbiome of postmenopausal women resembles in many respects that observed in women of child-bearing age with bacterial vaginosis – both groups of women have a high pH [Roy, Caillouette, Roy, et al. 2004], higher bacterial diversity [Brotman, Ravel, Cone, et al. 2010] and abnormal Nugent scores [Cauci, Driussi, De Santo, et al. 2002]. However, in many women with GSM, these abnormalities reflect a decrease in lactic acid bacilli rather than an increase in pathogenic microorganisms [ibid.; Gliniewicz, Schneider, Ridenhour, et al. 2019].

3. PSYCHOLOGICAL SYMPTOMS, COGNITIVE FUNCTION AND SLEEP DIFFICULTIES

Research clearly indicates an increased risk of depressive symptoms and disorders in peri-menopausal or post-menopausal women compared to pre-menopausal women [O’Neal and Eden 2012].

The SWAN study demonstrated an association between lower estrogen levels during menopause and sleep problems, hot flashes, anxiety as well as depressive symptoms [ibid.; Vivian-Taylor and Hickey 2014]. Research also suggests that women whose peri-menopausal period is prolonged may be at higher risk of depression. However, the occurrence of a number of psycho-emotional disorders during the peri-menopausal period can be attributed to factors other than just hormonal changes, i.e.; individual predisposition in terms of personality type, or socio-cultural factors related to lifestyle [Kravitz, Ganz, Bromberger, et al. 2003].

Deterioration of cognitive function (described by women as brain fog) is an ailment that is particularly severe during the menopausal transition, and some studies indicate that such a condition continues even after menopause [Karlman, Lachman, Han, et al. 2017; Santoro and Taylor 2011].

With the hormonal changes of the peri-menopausal period as well as advancing metric age, women are at risk for insomnia and are more likely to experience poorer sleep quality. In addition, disorders such as obstructive sleep apnea (OSA), restless legs syndrome (RLS), and a range of symptoms of depressed mood and anxiety appear.

The prevalence of sleep disorders ranges from 16% to 47% in the peri-menopausal period and 35-60% in the postmenopausal period. Insomnia, sometimes accompanied by feelings of anxiety, a depressed state, as well as mood disorders and depression are among the more common symptoms reported by menopausal women [Kravitz, Ganz, Bromberger, et al. 2003; Hsu and Lin 2005]. Epidemiological studies show that sleep difficulties and depressive symptoms are characteristic of women during

significant changes in sex hormones, not only during menopause but also during puberty [Morssinkhof, Wylick, Priester-Vink, et al. 2020; O'Neal and Eden 2012].

Obstructive sleep apnea (OSA), the essence of which is recurrent pauses in breathing during sleep and shallow breathing, despite preserved respiratory muscle function, also significantly impairs sleep quality and function in women.

Obstructive apnea is caused by impaired airflow through the upper airways, which in fact most often means the collapse of their lumen at the level of the throat [Perger, Mattaliano, and Lombardi 2019]. Factors that increase the risk of occurrence of OSA in postmenopausal women include high BMI and abdominal obesity [Naufel, Frange, Andersen, et al. 2018]. When making a comparison between pre/perimenopausal and postmenopausal women in the context of sleep difficulties and the occurrence of obstructive sleep apnea (OSA), it can be seen that postmenopausal women are more often affected. In contrast, the groups do not differ significantly in terms of symptoms such as dissatisfaction with the quality of sleep, feelings of daytime sleepiness, or the occurrence of restless legs syndrome [Zolfaghari, Yao, Thompson, et al. 2020].

Sleep-related disorders during menopause are a common phenomenon and their etiology is multifactorial. They may be part of the physiological aging process determined by the decline in estrogen levels or, alternatively, occur due to other conditions, such as, for example, restless legs syndrome (RLS) anxiety, co-morbidities, medications used, pain and/or psychosocial factors. In this context, it seems necessary to pay special attention to the care/support aspect of peri-menopausal women, as insomnia is a factor that further increases the risk of depression in this already vulnerable population [Guidozzi 2013; Kalmbach, Cheng, Arnedt, et al. 2019].

Furthermore, data from the literature clearly indicates that a factor that significantly alleviates/reduces menopausal symptoms in women, is psycho-emotional support in the broadest sense [Yazdkhasti, Keshavarz, Khoei, et al. 2012; Zhao, Liu, Feng, et al. 2019].

4. MENTAL HEALTH PROBLEMS OF MENOPAUSAL WOMEN IN THE SETTING OF THE COVID-19 PANDEMIC

The COVID-19 pandemic has exacerbated health problems for people around the world, often causing new difficulties especially in the aspect of mental health.

In general, the experience of anxiety and depression symptoms is much more common in women than in men.² It has been suggested that the reasons for these differences may be due to fluctuations in sex hormones and a decline in estrogen levels [Albert 2015]. Undoubtedly, the psychological and socioeconomic consequences resulting from the duration of the COVID-19 pandemic may be contributing to the deterioration of women's mental health.

Of the factors analyzed it was shown that high levels of anxiety, stress and depression were most often observed among women, young people and those with children [Babicki and Mastalerz-Migas 2020; Milton, Ellis, Davenport, et al. 2017; Wu, Lee, Sze, et al. 2022; Verma and Mishra 2020; Huang and Zhao 2020; Alkhomees, Alrashed, Alzunaydi, et al. 2020; Benke, Autenrieth, Asselmann, et al. 2020; Pedrosa, Bitencourt, Fróes, et al. 2020; Smith, Jacob, Yakkundi, et al. 2020].

Taking into account gender differences, it was noted that not only a higher incidence of depression, but also the more frequently stated concerns about daily functioning issues during the COVID-19 pandemic involved women [Du, Wang, Yin, et al. 2020; Mazza, Ricci, Biondi, et al. 2020]. Taking into account the individual stages of menopause, it can be seen that postmenopausal women are particularly vulnerable to the onset of depression [Jasik, Jaślikowska, Zbrojkiewicz, et al. 2016; First, Okanli, Kanbay, et al. 2021; Pala, Ünsal, Arslanta, et al. 2020]. It should be noted here that more than 20% of the world's population over the age of 60 is living with a mental disorder or neurological disease, with dementia, depressive disorders and anxiety being the most prevalent.³

In addition, a cited risk factor for mental disorders is a lower socioeconomic status and lack of psycho-emotional support [Du, Wang, Yin, et al. 2020; Özdin and Özdin 2020; Li, Qin, Sun, et al. 2020; Lei, Huang, Zhang, et al. 2020; Zhou, Zhang, Wang, et al. 2020].

Thus, it seems key to take measures to maintain the mental health of postmenopausal women, especially considering the characteristics of those who already had mental disorders, as well as those who only developed them during the COVID-19 pandemic.

² See <https://www.who.int/news/item/02-03-2022-covid-19-pandemic-triggers-25-increase-in-prevalence-of-anxiety-and-depression-worldwide> [accessed: 24.03.2023].

³ See <https://www.who.int/en/news-room/fact-sheets/detail/mental-health-of-older-adults> [accessed: 24.03.2023].

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