

Menopausal Women at Work: The Measured and Unmeasured Impact of Menopausal Symptoms on Productivity

Authors: Filonenko A¹, Woods M², Haberland C¹, Engelhardt A³, Bolling KR⁴, Gerlinger C⁵, Seitz C⁶, Pietsch GA⁷, Malacan J⁸, Taneja A⁹, Smith M², Harchand S⁹, Jindal S⁹.

*Corresponding author underlined

Affiliations: 1. Bayer AG, MAPAS HEOR, Berlin, Germany; 2. Lumanity, London, UK; 3. formerly Bayer Vital GmbH, Leverkusen, Germany; 4. Bayer U.S. LLC, DG & OS Research, Whippany, NJ, USA; 5. Bayer AG, Statistics & Data Insights, Berlin, Germany and Gynecology, Obstetrics and Reproductive Medicine, University Medical School of Saarland, Saar, Germany; 6. Bayer AG, Research & Development, Clinical Development & Operations, Berlin, Germany; 7. Bayer AG, Berlin, Germany; 8. Bayer Pharmaceuticals, Basel, BS, Switzerland; 9. Lumanity, Gurugram, India.

The research was funded by Bayer AG, Germany

BACKGROUND

- Women experiencing menopause comprise a significant part of the workforce with a critical contribution towards economic activity. In 2022, 75% of women aged 45–54 in the US participated in the labor force¹
- The majority of working women of menopausal age experience symptoms, including vasomotor (VMS) and other related symptoms.^{2,3} Untreated and more severe VMS are associated with higher costs of productivity loss⁴
- Sectors in which women make up a high proportion of the workforce (such as education, healthcare, and the social sector)⁵ are likely to be affected by poorly controlled VMS⁶⁻⁸
- Given the enduring social stigma surrounding menopause, the burden of symptoms is likely underreported, and the magnitude of its impact systematically underestimated.^{2,3,9} Both quantitative and qualitative evidence are required to describe the true impact of menopausal symptoms on productivity

OBJECTIVES

- We aimed to synthesize qualitative evidence regarding the effect of menopausal symptoms in the workplace to further contextualize the reported productivity impacts and costs
- We also present a greater depth of evidence regarding specific symptoms such as sleep disturbances and depression, which are often underreported or otherwise contribute to a “hidden” economic impact

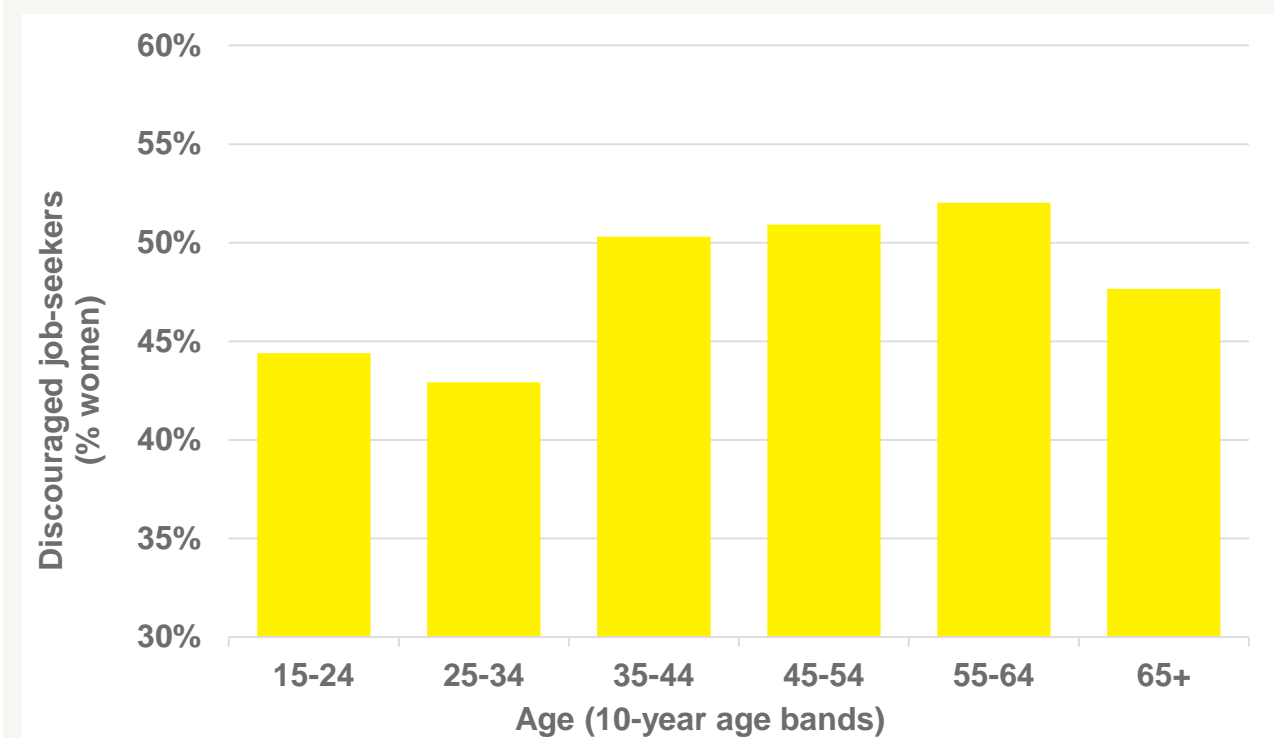
METHODS

- A systematic literature review (SLR) (PROSPERO; CRD42022312194) and a targeted burden-of-illness (BOI) review were conducted. Reports from labor organizations and relevant public institutions were also screened
- MEDLINE®, Embase®, MEDLINE In-Process, EconLit®, the Health Technology Assessment Database (HTAD), the University of York Database of Abstracts of Reviews of Effects (DARE) and the National Health Service Economic Evaluation Database (NHS EED) were searched systematically in accordance with PRISMA¹⁰ to identify studies assessing productivity loss and menopausal symptoms

RESULTS

- Each woman’s experience of menopause is unique and characterized by their symptoms, socioeconomic background, and individual challenges^{9, 11}
- The proportion of discouraged female job-seekers increases by age band, peaking during the 55–64 age band (Figure 1), with research indicating a greater impact on women compared with men across the 35–64 age bands¹
- Due to the social stigma around menopause, women’s needs for simple accommodations of menopausal symptoms often go ignored in the workplace.^{2,3,12} In a recent US survey, over 87% of respondents had not spoken about their menopause symptoms at work, citing feelings of shame and fear of discrimination.² Eighty percent of women who had taken sick leave because of menopausal symptoms did not disclose menopause as the reason, meaning the work-related impacts are systematically underreported²

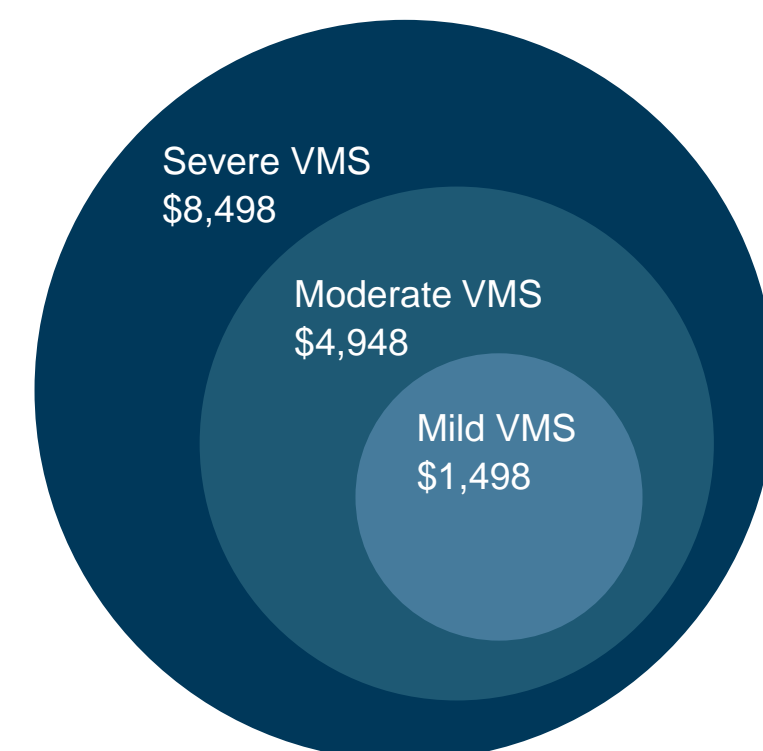
Figure 1: Percentage of total number of discouraged job-seekers who are women (US, 2022; International Labour Organization)¹



Impact of menopausal symptoms on productivity

- Conservatively estimated total annual productivity losses due to untreated VMS in the US could be upwards of \$6.7 billion in 2021 (adjusted to 2023 USD),¹³⁻¹⁵ not including presenteeism costs
- The total annual productivity loss costs associated with VMS in the US increases with the severity of symptoms (Figure 2).¹⁶ Mean estimates vary across studies, dependent on the selected indicators of indirect costs and measures of work productivity, but consistently demonstrate a substantial burden associated with menopausal symptoms^{13, 14, 17}
- Between 30% and 60% of women experiencing VMS reported an increase in periods of wakefulness after sleep onset, which can result in fatigue and daytime irritability.^{11, 18-22} Anxiety and depression was reported in over half of women (51–54%).²³⁻²⁶ Menopausal symptoms in general were reported to impair daily and social functioning^{14, 27, 28}

Figure 2: Total annual cost* of productivity loss associated with VMS per individual, by level of severity¹⁶



* Costs are adjusted to 2023 USD

- Sleep disturbances (and the resulting fatigue) are particularly associated with VMS and other menopausal symptoms and therefore decreased productivity. New-onset sleep problems in middle-aged women are associated with \$2.5 billion per year in lost productivity nationwide in the US (using sleep data from the SWAN database from 1995–2008 and median hourly wage data from Q4 2019, adjusted to 2023 USD)²⁹
- Women with VMS and other menopausal symptoms are more likely to experience depression, which is associated with a significant increase in annual indirect costs of \$4,739 in the US (using median income data from 2005, adjusted to 2023 USD), compared with women in menopause not experiencing depression³⁰

Figure 3: Impact of (a) sleep disturbance⁴¹ and (b) depression³⁰ on measures of work productivity in women experiencing menopause with symptoms compared with a control group without symptoms*

| Effect of... (a) Increase in sleep disturbance | | | | |
|--|-----------------|--------------|-------------|---------------------------|
| | Work impairment | Presenteeism | Absenteeism | Daily activity impairment |
| | +20% | +23% | +3% | +31% |

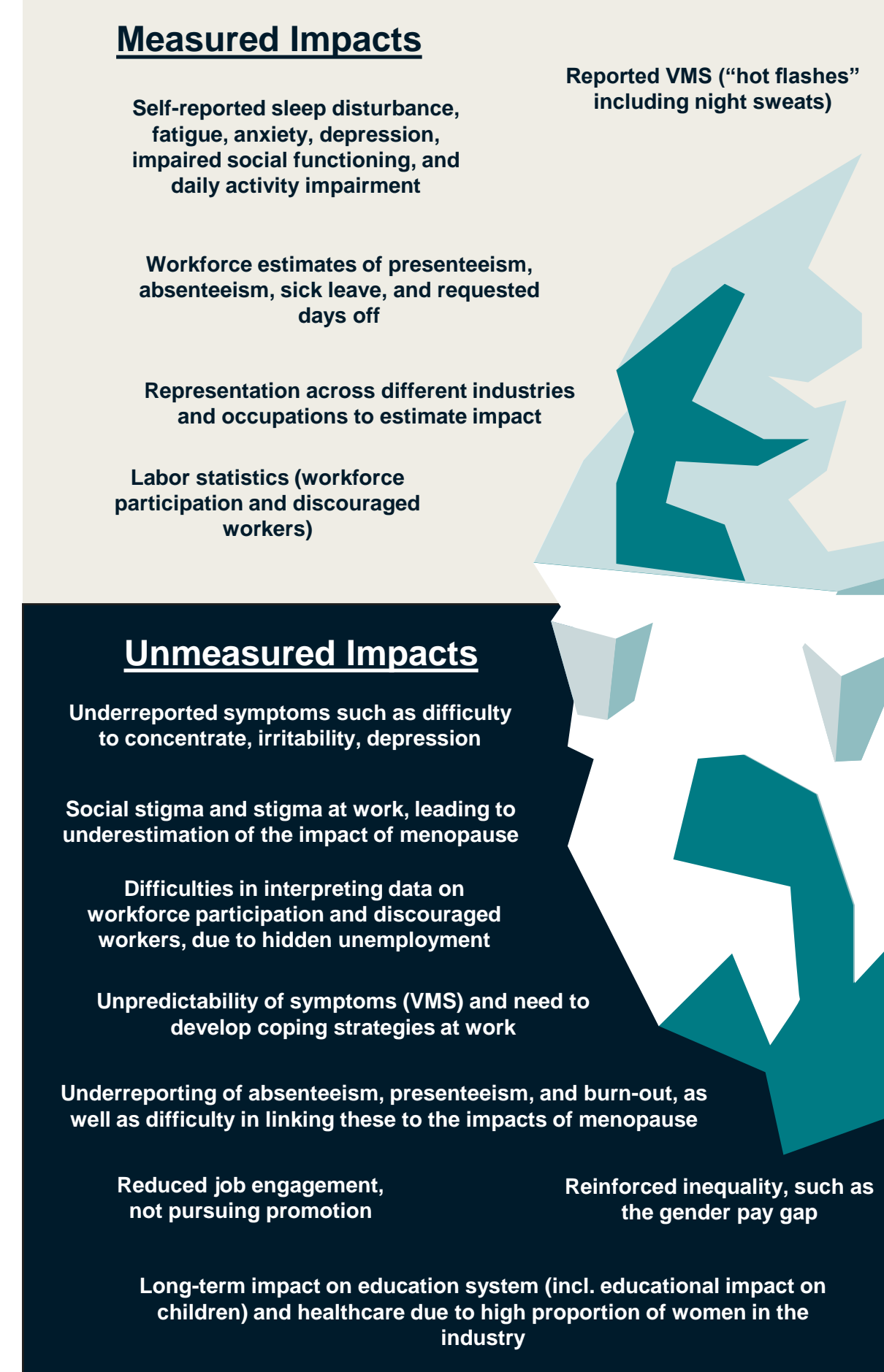
| Effect of... (b) Increase in depression | | | | |
|---|-----------------|--------------|-------------|---------------------------|
| | Work impairment | Presenteeism | Absenteeism | Daily activity impairment |
| Not reported; impact is significant | | +11% | +3% | +14% |

**All differences are significant, except for the impact of sleep disturbance on absenteeism

Difficulties in quantifying impacts of menopause on productivity

- Research on the impact of menopause relies on accurate self-reporting of the relevant measures. However, a high degree of social stigma still exists around menopause. Many women do not report menopausal symptoms due to fear of discrimination, even though the impact on their lives is very real. Therefore, the true impact of menopausal symptoms on work productivity is likely to be systemically underestimated (Figure 4)
- Women account for a high proportion of certain occupations in the US (2020), such as nurses (87.4%), elementary and middle school teachers (79.6%), and accountants and auditors (59.7%).⁵ By industry, women account for more than half of all workers across several sectors, including education and health services (74.6%), other services (52.6%), financial activities (51.9%), and leisure and hospitality (50.4%).⁵ Therefore, these are all areas that are likely to be disproportionately affected by poorly controlled VMS and other menopausal symptoms. Education, healthcare, and the social sector all have acknowledged issues of burn-out, early retirement, or presenteeism relating to women experiencing menopause⁶⁻⁸
- Educational attainment, employment status, and financial stability were reported as predictors of better quality of life in women. This suggests women of lower socioeconomic status are also disproportionately affected by symptoms associated with the menopause³¹⁻³⁸

Figure 4: The measured and unmeasured impacts of menopausal symptoms on work productivity



- Women experiencing menopausal symptoms experience “hidden unemployment”: wanting to work, but facing limited work opportunities, restrictive work requirements, or reduced ability to work as they experience discrimination or other structural, social, or cultural barriers in terms of hours worked (or hours not worked)^{39, 40}
- At the individual level, lost wages, lower personal income, and loss of promotional opportunities may be experienced by women in menopause, although these issues are fundamentally difficult to attribute cause to effect
- At a wider societal level, the issues may contribute to gender-, age-, and/or condition-related inequalities – for example, a wider income gap, a disproportionate impact on female-dominated industries (nursing, teachers, social services), and specifically on certain racial and ethnic groups⁹
- There is likely to be systemic underreporting and subsequent underestimation of the wider societal impact of menopausal symptoms, for any measure of work productivity

SUGGESTIONS FOR EMPLOYERS

- In a survey based in the US, 57% of women experiencing menopause stated that it would be important to them for their employer (or prospective employer) to express a commitment to support employees with menopause symptoms³
- Practical suggestions** include:^{2, 3}
 - An audit of existing policies and practices that may affect women experiencing menopause;
 - Development of a framework to create an inclusive and stigma-free working environment;
 - Educating managers about the impact of menopause for women in the workplace;
 - Clear menopause-related topics in an employee manual, using inclusive language; and
 - Pragmatic support such as flexible working hours, working from home options, and employee-directed temperature controls
- General suggestions** relate to workplace culture and involved improving general awareness of menopause that would help to reduce social stigma. Taking a holistic view across people management, equality, and occupational health, creating an open and supportive culture^{2,3}

CONCLUSIONS

- Women experiencing menopausal symptoms have reduced work productivity, absenteeism, and presenteeism, effects that are likely exacerbated when symptoms go untreated. In consequence, this removing a significant proportion of experienced female workers in menopause from critical sectors – education, healthcare, social services
- The number of women leaving the workforce due to their menopausal symptoms may be greater than 500,000 per year in the US;³ this is associated with substantial economic and social implications
- The impacts on work are likely to be underestimated due to social stigma associated with menopause
- Increased awareness and occupational policies are needed to support women experiencing menopause in the workplace

REFERENCES

References are available in an online version.



An electronic version of the poster can be viewed by scanning the QR code.

Reference list for:

Menopausal Women at Work: The Measured and Unmeasured Impact of Menopausal Symptoms on Productivity

1. International Labor Organization. ILOSTAT Data Explorer. 2022. Available at: https://www.ilo.org/shinyapps/bulkexplorer29/?lang=en&segment=indicator&id=EMP_DWAP_SEX_AGE_RT_A&ref_area=USA. Accessed: 14 March 2023.
2. The Chartered Institute of Personnel and Development (CIPD). The Menopause at Work: A guide for people professionals. 2022. (Updated: August 2022) Available at: https://www.cipd.co.uk/Images/menopause-guide-2022_tcm18-55426.pdf. Accessed: 28/03/2023.
3. Biote. Biote Women In The Workplace Survey. 2022. (Updated: 10 May 2022) Available at: <https://biote.com/learning-center/biote-women-in-the-workplace-survey>. Accessed: 28 March 2023.
4. Rees M, Bitzer J, Cano A, et al. Global consensus recommendations on menopause in the workplace: A European Menopause and Andropause Society (EMAS) position statement. *Maturitas*. 2021; 151:55-62.
5. US Bureau of Labor Statistics. Women in the labor force: a databook [BLS Reports]. 2022. (Updated: March 2022). Accessed: 28 March 2023.
6. Converso D, Viotti S, Sottimano I, et al. The relationship between menopausal symptoms and burnout. A cross-sectional study among nurses. *BMC women's health*. 2019; 19(1):148.
7. Cau-Bareille D. Factors influencing early retirement in a female-dominated profession: kindergarten teacher in France. *Work (Reading, Mass)*. 2011; 40 Suppl 1:S15-30.
8. Guidetti G, Viotti S, Converso D and Sottimano I. Work and health-related factors of presenteeism: a mediation analysis on the role of menopausal symptoms between job demands and presenteeism among a sample of social service women employees. *International Journal of Workplace Health Management*. 2022; 15(1):70-86.
9. Institute for Clinical and Economic Review (ICER). Fezolinetant for Moderate to Severe Vasomotor Symptoms Associated with Menopause: Effectiveness and Value [Final Report]. 2023. (Updated: 23 January 2023) Available at: https://icer.org/wp-content/uploads/2022/06/ICER_Menopause_FinalReport_01232023.pdf. Accessed: 28 March 2023.
10. Page MJ, McKenzie JE, Bossuyt PM, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*. 2021; 372:n71.
11. Hoga L, Rodolpho J, Goncalves B and Quirino B. Women's experience of menopause: a systematic review of qualitative evidence. *JBI Database System Rev Implement Rep*. 2015; 13(8):250-337.
12. Grandey AA, Gabriel AS and King EB. Tackling Taboo Topics: A Review of the Three Ms in Working Women's Lives. *Journal of Management*. 2019; 46(1):7-35.
13. Sarrel P, Portman D, Lefebvre P, et al. Incremental direct and indirect costs of untreated vasomotor symptoms. *Menopause*. 2015; 22(3):260-6.
14. Kleinman NL, Rohrbacker NJ, Bushmakin AG, et al. Direct and indirect costs of women diagnosed with menopause symptoms. *Journal of occupational and environmental medicine*. 2013; 55(4):465-70.
15. Filonenko A, Haberland C, Prosche A, Bolling KR, Gerlinger C, Britton J, Taneja A, Harchand S, Kasle A, Jindal S. Work Productivity Loss Among Women With Menopausal Symptoms: A Systematic Literature Review. Presented at the 2022 ISPOR Europe Congress; 6–9 November 2022; Vienna, Austria.
16. Whiteley J, Wagner JS, Bushmakin A, et al. Impact of the severity of vasomotor symptoms on health status, resource use, and productivity. *Menopause*. 2013; 20(5):518-24.
17. Stute P. Real-world evaluation of the impact, treatment patterns, and patient and physician perceptions of vasomotor symptoms associated with menopause in Europe and United States. *Maturitas*. 2021; 152:73.
18. Baker FC, Willoughby AR, Sassoon SA, et al. Insomnia in women approaching menopause: Beyond perception. *Psychoneuroendocrinology*. 2015; 60:96-104.
19. Ciano C, King TS, Wright RR, et al. Longitudinal Study of Insomnia Symptoms Among Women During Perimenopause. *Journal of obstetric, gynecologic, and neonatal nursing : JOGNN*. 2017; 46(6):804-13.
20. Thurston RC, Chang Y, Buysse DJ, et al. Hot flashes and awakenings among midlife women. *Sleep*. 2019; 42(9).
21. Assaf AR, Bushmakin AG, Joyce N, et al. The Relative Burden of Menopausal and Postmenopausal Symptoms versus Other Major Conditions: A Retrospective Analysis of the Medical Expenditure Panel Survey Data. *American health & drug benefits*. 2017; 10(6):311-21.
22. Chandran A, Joyce N, Bushmakin AG, et al. Burden of menopausal symptoms: Analysis of healthcare resource utilization using the medical expenditure panel survey (MEPS). *Menopause*. 2013; 20(12):1325.
23. Utian WH. Psychosocial and socioeconomic burden of vasomotor symptoms in menopause: a comprehensive review. *Health and quality of life outcomes*. 2005; 3:47.
24. Nappi RE, Kroll R, Siddiqui E, et al. Global cross-sectional survey of women with vasomotor symptoms associated with menopause: prevalence and quality of life burden. *Menopause*. 2021; 28(8):875-82.
25. Thurston RC and Joffe H. Vasomotor symptoms and menopause: findings from the Study of Women's Health across the Nation. *Obstetrics and gynecology clinics of North America*. 2011; 38(3):489-501.
26. Freeman EW, Sammel MD, Lin H and Nelson DB. Associations of hormones and menopausal status with depressed mood in women with no history of depression. *Archives of general psychiatry*. 2006; 63(4):375-82.
27. Yazdi Z, Sadeghniaat-Haghighi K, Ziaee A, et al. Influence of Sleep Disturbances on Quality of Life of Iranian Menopausal Women. *Psychiatry Journal*. 2013; 2013:907068.
28. Zaslavsky O, LaCroix AZ, Hale L, et al. Longitudinal changes in insomnia status and incidence of physical, emotional, or mixed impairment in postmenopausal women participating in the Women's Health Initiative (WHI) study. *Sleep medicine*. 2015; 16(3):364-71.
29. Kagan R, Shiozawa A, Epstein AJ and Espinosa R. Impact of sleep disturbances on employment and work productivity among midlife women in the US SWAN database: a brief report. *Menopause*. 2021; 28(10):1176-80.
30. Dibonaventura MD, Wagner JS, Alvir J and Whiteley J. Depression, quality of life, work productivity, resource use, and costs among women experiencing menopause and hot flashes: a cross-sectional study. *The primary care companion for CNS disorders*. 2012; 14(6).
31. Harlow SD, Burnett-Bowie SM, Greendale GA, et al. Disparities in Reproductive Aging and Midlife Health between Black and White women: The Study of Women's Health Across the Nation (SWAN). *Women's midlife health*. 2022; 8(1):3.
32. Jack G, Riach K, Bariola E, et al. Menopause in the workplace: What employers should be doing. *Maturitas*. 2016; 85:88-95.
33. El Hajj A, Wardy N, Haidar S, et al. Menopausal symptoms, physical activity level and quality of life of women living in the Mediterranean region. *PLoS one*. 2020; 15(3):e0230515.
34. Elavsky S and McAuley E. Physical activity, symptoms, esteem, and life satisfaction during menopause. *Maturitas*. 2005; 52(3-4):374-85.
35. Abedzadeh Kalarhousi M, Taebi M, Sadat Z and Saberi F. Assessment of quality of life in menopausal periods: a population study in kashan, iran. *Iranian Red Crescent medical journal*. 2011; 13(11):811-7.
36. Gold EB, Colvin A, Avis N, et al. Longitudinal analysis of the association between vasomotor symptoms and race/ethnicity across the menopausal transition: study of women's health across the nation. *American journal of public health*. 2006; 96(7):1226-35.
37. De Mello A, Chavez A, Mukarram M, et al. Menopausal symptoms in the Southwest United States: A cross-sectional survey of women from areas with different socioeconomic resources. *Maturitas*. 2021; 154:7-12.
38. Im EO, Lee B, Chee W, et al. Menopausal symptoms among four major ethnic groups in the United States. *Western journal of nursing research*. 2010; 32(4):540-65.
39. Hardy C, Thorne E, Griffiths A and Hunter MS. Work outcomes in midlife women: the impact of menopause, work stress and working environment. *Women's midlife health*. 2018; 4(1):3.
40. Labour Force Statistics (LFS S, RURBAN) - ILOSTAT Available at: <https://ilostat.ilo.org/resources/concepts-and-definitions/description-labour-force-statistics/>. Accessed: 14 March 2023.
41. Bolge SC, Balkrishnan R, Kannan H, et al. Burden associated with chronic sleep maintenance insomnia characterized by nighttime awakenings among women with menopausal symptoms. *Menopause*. 2010; 17(1):80-6.