

Vasomotor Symptoms in Menopause: Modifying the Unmodifiable. (Mini-commentary on BJOG-20-0151.R1)

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Vasomotor symptoms (VMS), namely hot flashes and night sweats, are the key symptoms of menopause. Women frequently seek healthcare interventions for these bothersome symptoms. Early menarche [?]11 years has been associated with an earlier onset of menopause (Mishra et al. *Hum Reprod* 2017;32:679-86), that may subsequently exert a negative impact on fat distribution and glucose homeostasis (Mauvais-Jarvis et al. *Endocr Rev* 2017;38:173-88). To date, the relationship between early menarche and the frequency/severity of VMS, and if it is modified by obesity, is unclear.

In this issue of *BJOG*, Chung et al. put into context the complex interplay of several factors that contributed to a higher frequency or severity of VMS by harmonising individual-level data of six cohort studies involving 18,555 women (median age 48 years; 91.2% White, 4.6% African Americans and 4.2% Asians) (Chung et al. *BJOG* 2020). Compared with women with age at menarche [?]14 years, women with early menarche [?]11 years were at increased risk for frequent hot flashes and night sweats, showing a relative risk (RR) of 1.48 (95% confidence interval [CI] 1.24-1.76) and 1.59 (95% CI 1.49-1.70), respectively. The corresponding RRs for severe hot flashes and night sweats were 1.16 (95% CI 0.94-1.42) and 1.27 (95% CI 1.01-1.58). When adjusting for body mass index (BMI) in midlife, the associations were attenuated but remained significant (except for severe hot flashes). Compared with women with age at menarche [?]14 years and midlife BMI <25 kg/m², women with early menarche [?]11 years had an RR of 2.36 (95% CI 2.17-2.57) when BMI was 25-29.9 kg/m², and 2.87 (95% CI 2.79-2.95) when BMI [?]30 kg/m² for frequent hot flashes, suggestive of a dose-response relationship. Despite these encouraging results, the majority of studies involved the White populations, which might limit the generalisability of the results to other populations.

Given the increasing burden of obesity in childhood/adolescence and women (Afshin et al. *N Engl J Med* 2017;377:13-27), the results have important clinical implications. We now have stronger evidence to not only suggest that early menarche contributes to increased risk of frequent and/or severe VMS, but also having a higher midlife BMI can potentially exacerbate the condition. For example, a woman who attained menarche at an age younger than 11, irrespective of prior genetic and/or environmental influences, is more likely to experience frequent and/or severe VMS. The good news is that she may at least halve the risk by striving to maintain a normal BMI in midlife.

These results will add strength to the recommendation of weight reduction as one of the effective non-pharmacological approaches to relieve VMS (*Menopause* 2015;22:1155-74). The impact of weight reduction will likely extend beyond management of VMS, to also reduce the incidence of non-communicable diseases in perimenopausal women. While questions regarding the risks and benefits of menopausal hormonal therapy on cardiovascular and cancer outcomes remain (The NAMS 2017 Hormone Therapy Position Statement Advisory Panel. *Menopause* 2017;24:728-53), an emphasis for the role of non-pharmacological management of VMS may be pertinent now more than ever.

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