

Volume 48, Issue 15

November 2018 , pp. 2550-2561

The role of sleep difficulties in the vasomotor menopausal symptoms and depressed mood relationships: an international pooled analysis of eight studies in the InterLACE consortium

[Hsin-Fang Chung](#) ^(a1), [Nirmala Pandeya](#) ^(a1), [Annette J. Dobson](#) ^(a1), [Diana Kuh](#) ^(a2) ...DOI: <https://doi-org.offcampus.lib.washington.edu/10.1017/S0033291718000168>

Published online by Cambridge University Press: 12 February 2018

Abstract

Background

Many women experience both vasomotor menopausal symptoms (VMS) and depressed mood at midlife, but little is known regarding the prospective bi-directional relationships between VMS and depressed mood and the role of sleep difficulties in both directions.

Methods

A pooled analysis was conducted using data from 21 312 women (median: 50 years, interquartile range 49–51) in eight studies from the InterLACE consortium. The degree of VMS, sleep difficulties, and depressed mood was self-reported and categorised as never, rarely, sometimes, and often (if reporting frequency) or never, mild, moderate, and severe (if reporting severity). Multivariable logistic regression models were used to examine the bi-directional associations adjusted for within-study correlation.


Results

At baseline, the prevalence of VMS (40%, range 13–62%) and depressed mood (26%, 8–41%) varied substantially across studies, and a strong dose-dependent association between VMS and likelihood of depressed mood was found. Over 3 years of follow-up, women with often/severe VMS at baseline were more likely to have subsequent depressed mood compared with those without VMS (odds ratios (OR) 1.56, 1.27–1.92). Women with often/severe

depressed mood at baseline were also more likely to have subsequent VMS than those without depressed mood (OR 1.89, 1.47–2.44). With further adjustment for the degree of sleep difficulties at baseline, the OR of having a subsequent depressed mood associated with often/severe VMS was attenuated and no longer significant (OR 1.13, 0.90–1.40). Conversely, often/severe depressed mood remained significantly associated with subsequent VMS (OR 1.80, 1.38–2.34).

Conclusions

Difficulty in sleeping largely explained the relationship between VMS and subsequent depressed mood, but it had little impact on the relationship between depressed mood and subsequent VMS.

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Corresponding author

Author for correspondence: Dr Hsin-Fang Chung, E-mail: h.chung1@uq.edu.au (<mailto:h.chung1@uq.edu.au>)

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