

Wearables and apps for the management of menopause

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Introduction

The menopause transition is disruptive, potentially lasting for a decade or more and causing symptoms such as vasomotor (e.g., hot flushes), psychological and urogenital [1]. Non-hormonal management of symptoms exist (e.g., lifestyle modifications) but evidence of effectiveness is inconclusive [2]. Digital technologies may aid management by deploying personalized devices that capture objective intrinsic data to meet individual needs [3] while simultaneously aiding healthcare practitioners deliver personalized and well informed care [4]. Management with digital technologies may have a positive impact generally but focus here is in the workplace.

Background

Symptoms and their interpretations should be expanded to include environmental contexts [5] by considering extrinsic factors [6]. Within the workplace, extrinsic factors worth monitoring (from current recommendations) include e.g., (1) temperature and ventilation and (2) work locations and work patterns [7]. Pilot work investigated temperature perceptions and reported those at perimenopausal age felt significantly warmer with reduced levels of thermal environmental acceptability [8]. Workplace implications include deliberate climatic zoning to accommodate thermal preferences of perimenopausal and postmenopausal women. Tools for implementation suggest a contemporary and multi-modal digital approach.

Approaches

Attainable technologies and methodologies exist to achieve scalable multi-modal sensing which could be applied to symptom management. For example, recent work has devised an approach to fuse data from (1) a common wrist worn wearable, (2) an individualised environmental monitoring device and (3) voice-based environmental perceptions via Amazon Alexa and a web-based app [9]. The ubiquitous nature of wearables and web apps for integration to other peripheral technologies may enable routine capture of qualitative and quantitative data to aid symptom management and optimal work-based environments.

Future directions

Digital technologies (wearables and apps) may better support those with problematic vasomotor symptoms at work, as well as address working environment issues [10]. Investigations examining the impact of workplace changes and tailored interventions as assessed with multi-modal digital technologies are needed.

References

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