



Sweating out stress: sauna bathing's rising role in mental health recovery

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To the Editor,

The burden of mental health issues is escalating globally, particularly among older adults. The global population is experiencing rapid aging, leading to a growing incidence of mental illnesses in the elderly^[1]. In 2020 alone, there were approximately 53.2 million additional cases of major depressive disorder and 76.2 million extra cases of anxiety disorders globally, compared to prepandemic levels^[2]. These surges are compounded by persistent post-COVID effects, where circadian rhythm disruptions and melatonin dysregulation drive ongoing symptoms like cognitive impairment and fatigue, further straining mental health resources^[3]. Many of these issues remain unaddressed due to the stigma associated with mental health conditions. These alarming trends have prompted researchers and healthcare professionals to intensify efforts to identify underlying causes, preventive strategies, and effective treatments. Despite progress in both psychological and pharmacological treatments, there remains a notable gap in mental healthcare services, underscoring the necessity for additional, readily available, and culturally relevant interventions^[1,2].

In this context, sauna bathing has emerged as a promising candidate. It involves regular exposure to elevated temperatures (80–100°C) and low humidity (10–20%). Based on recent scientific evidence it demonstrates significant positive effects on mental health through multiple physiological pathways. Regular sauna sessions reduce symptoms of depression and anxiety, improve sleep quality, enhance cognitive function, and may lower long-term risks of neurodegenerative and psychotic disorders. The benefits stem from heat-induced physiological

changes, including endorphin release, improved cerebral blood flow, and neuroprotective heat-shock protein expression^[4].

Supporting evidence includes a systematic review that identified several plausible mechanisms, such as enhanced β -endorphin release, reduced systemic inflammation, autonomic nervous system modulation, elevated brain-derived neurotrophic factor (BDNF) levels, and improved sleep architecture^[4].

While the potential health benefits of saunas are evident, their safety profile warrants consideration. They are generally considered safe for healthy adults, but may not be suitable for everyone (e.g., those with unstable cardiovascular conditions or impaired thermoregulation). Moreover, the current evidence base has important limitations. A recent study reported that many existing studies have small sample sizes, poor standardization of sauna protocols (duration, frequency, temperature variation, and type of sauna), heterogeneous methods, and a lack of rigorous controls^[5]. Furthermore, the majority of cohort studies have focused on male populations, which might result in a potential bias in the findings^[4]. Thus, more data of higher quality is needed to determine optimal protocols and target populations. A further limitation is the heavy reliance on English-language publications, despite sauna bathing being a deeply rooted cultural practice in countries such as Finland; this may introduce publication and cultural bias^[4,5]. We emphasize that the evidence remains limited and sometimes inconsistent. Therefore, until more conclusive data have emerged, sauna bathing should be seen as an adjunctive lifestyle approach rather than a proven treatment.

To conclude, the rapidly increasing mental health burden among older people and the continuing lack of accessible and culturally suitable interventions make the new evidence about sauna bathing worth serious scientific and clinical attention^[1–3]. The merging of neurophysiological advantages, sleep enhancement, and mood improvement reveals a low-cost, non-medical approach that is still not fully explored in daily mental health practice^[4]. The facts mentioned above call for well-designed randomized trials with standardized sauna protocols, research on diverse and underrepresented populations, and the incorporation of safety-stratified guidelines into mental health policy discussions. In addition, systematic inclusion of non-English literature and region-specific data is necessary to prevent cultural and publication bias in the current evidence base^[4,5]. Strengthening interdisciplinary collaboration between psychiatry, public health, and lifestyle medicine is now crucial to rigorously evaluate the translational potential of sauna bathing within preventive and adjunctive mental healthcare.

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