

## **An analysis of community-based, nonpharmacological treatments for the behavioural and psychological symptoms of dementia, as alternatives to antipsychotic medication in aging populations around the world**



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**Introduction:** The global proportion of people aged 60 years and above has increased from about 9% to just shy of 12% between 1990 and 2013, and is expected to reach 21% by 2050.<sup>1</sup> Due to global population aging, dementia impacts millions worldwide, with 7.7 million new cases and a cost of billions of dollars, annually.<sup>2</sup> According to Banerjee,<sup>3</sup> Behavioural and Psychological Symptoms of Dementia (BPSD) include 'agitation, aggression, wandering, shouting, repeated questioning, sleep disturbance, depression and psychosis', amongst others. The adverse effects associated with antipsychotic medications, commonly used and excessively prescribed to manage BPSD, include stroke, transient ischemic attacks, etc.<sup>4</sup> Nonpharmacological interventions must be explored, particularly after recent warnings from the United States Food and Drug Administration (USFDA) and the European Medicines Agency (EMA).<sup>3</sup>

**Methods:** This scoping review answered the following question: "What are the recent trends in different countries of community-based nonpharmacological interventions as alternatives to antipsychotic medication for BPSD, and what is the efficacy of these treatments?" *CINAHL* and *OVID* were searched using key terms such as "adult\*", "dementia\*", "behavioral and psychological symptoms of dementia (bpsd)", "non-pharmacological," etc.

Original investigations in English, published since 2004, with an evaluation, were included.

**Results:** The search revealed four artistic interventions, four technological interventions, and three education and behavior change interventions. All of the artistic interventions demonstrated positive effects and did not describe strong negative impacts.<sup>5,6,7,8</sup> The technological interventions demonstrated mixed results, with positive results mainly for wandering interventions<sup>9,10,11,12</sup> and the educational and behavioural change interventions also demonstrated positive impacts overall.<sup>13,14,15</sup>

**Analysis:** A SWOT analysis<sup>16</sup> indicated that although progress is being made in the field, there is much to be done. The articles were diverse in their countries of origin, sample populations, interventions and outcomes. However, the literature in the area of community-based interventions for BPSD is sparse relative to the preference of older individuals to live at home,<sup>17</sup> and the majority of studies used small sample sizes. The results also featured articles only from high-income countries,<sup>18</sup> and only one article involved international collaboration. These issues may impact the applicability of this research to low- and middle-income countries (LMIC), as 63.4% and 70.5% of dementia patients are expected to live in these areas by 2030, and 2050 respectively.<sup>2</sup>

**Limitations:** The use of 2004 as a cutoff year potentially excluded important investigations. Additionally, the search terms could be expanded in future research, and it would be interesting to explore investigations in languages other than English for further analysis.

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**Conclusion:** Overall, there is a need to prioritize research on community-based nonpharmacological interventions that promote international collaboration, utilize more diverse populations, and that are promising in low-resource settings which are less able to manage BPSD.

**Global Health Relevancy/Global Health Impact**

The topic of nonpharmacological treatments for BPSD is relevant to Global Health given the global aging population and dementia rates, as well as the burden of this disease falling largely on LMIC. Nonpharmacological treatments have the potential to be cost-efficient with fewer side effects than pharmacological treatments, and can be implemented in community settings.