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COMMENTARY

Need for culturally and ethnically specific measures and measures of social determinants of health in mental health research among indigenous populations

Commentary on "Depression, child trauma, and physical activity in older indigenous Australians" by Rowland *et al.*

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There is no unified definition of Indigenous persons as Indigenous people occupy 90 countries and represent 5,000 cultures (UN, 2019), and as such have diverse histories, languages, and experiences. However, across populations, they share commonalities in that they are often "distinct social and cultural groups that share collective ancestral ties to the lands and natural resources where they live, occupy or from which they have been displaced." (World Bank, 2019). Approximately 6% of the global population are Indigenous persons that amounts to 500 million Indigenous people worldwide (World Bank, 2019). While comprising a relatively small proportion of the world population, Indigenous people experience disproportionate marginalization and disadvantage reflected in high rates of poverty (nearly three times greater than their non-Indigenous counterparts) encompassing 20% of the world's extreme poor, lower life expectancy (nearly 20 years lower), and higher rates of discrimination (World Bank, 2019). Indigenous peoples also have higher rates of early and persistent trauma, internalizing disorders, and psychological distress (Kisely *et al.*, 2017) as compared to their non-Indigenous counterparts. This is attributable to social determinants of health (SDoH), including discrimination, racism, poor access to healthcare, and other structural factors such as displacement and colonization (Arkles *et al.*, 2010; Cunningham and Paradies, 2012; Gracey and King, 2009; Kaholokula *et al.*, 2017; King *et al.*, 2009). As such low burden, accessible interventions to improve health outcomes among Indigenous populations are of great importance.

In "*Depression, Child Trauma, and Physical Activity in Older Indigenous Australians*," Rowland and colleagues used mixed methodology to examine relationships between early trauma, premorbid physical activity, and late-life depressive symptoms, as well as the feasibility of engaging in physical activity for older Indigenous Australians. Data from 336 participants aged 60 years and older in the Koori Growing Old Well Study (KGOWS), a cross-sectional population-level study across Aboriginal communities, were included to accomplish the first study aim. Recruitment and data collection occurred in partnership with local Aboriginal Community Controlled Health Organizations (ACCHO) and Aboriginal communities. Nearly 45% of participants met the criteria for depression on the modified Patient Health Questionnaire (mPHQ-9 (Esler *et al.*, 2008), and nearly 30% met the criteria for moderate to severe childhood trauma exposure on the Child Trauma Questionnaire (CTQ; Bernstein *et al.*, 2003). Physical activity significantly predicted depression ($p = .017$) and severity of childhood trauma ($p = .011$). Physical activity and early trauma accounted for approximately 3% of the variance in depression, and the interaction of the two accounted for 1% of the variance in depression. Moderate physical activity was associated with fewer depressive symptoms as compared to no activity ($p = 0.009$). To assess facilitators and barriers to engaging in physical activity, the authors recruited seven Indigenous Australian women from a social support group of adults 50 years of age and older for a focus group. Three overarching themes emerged from the focus group. The first, psychological factors revealed that if physical activity resulted in a sense of agency, good health, and joy, they were more likely to engage in an activity. However, motivation to initiate due to perception of lack of time and great effort, lack of social support, familial constraints, and mental

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illness were barriers. In regards to physical factors, illness, obesity, disability, and age-related declines in physical health were identified as barriers. Accessibility of low-impact activities and motivation due to caregiving roles were facilitators. Finally, in regards to societal and environmental factors, negative familial factors such as lack of family support, domestic violence, and breakdown of the family structure were seen as barriers as they led to a shift in priorities or roles. Overall, focus group participants understood the value of physical activity in achieving healthy aging and associated it with activities such as athletics or gym as opposed to mobility.

There are several limitations to this study. As noted above and by authors, SDoH are a significant contributor to exposures and health outcomes among Indigenous populations. Indeed, Aboriginal Australians, the population included in "*Depression, Child Trauma, and Physical Activity in Older Indigenous Australians*" (Rowland *et al.*, 2021) suffer from the greatest social disadvantage and poorest health outcomes among developed nations (Hill *et al.*, 2007). Lifetime experiences of social disadvantage significantly contribute to poor mental health outcomes in this population later in life (Arkles *et al.*, 2010). However, measures of these culturally specific SDoH are not incorporated in this study, and there is a lack of examination of how SDoH, specific to the Australian Indigenous communities studied here, influenced outcomes. Further, while the CTQ has been "successfully applied to . . . older Indigenous Australians," no evidence is presented indicating that it has been validated for this population. As the CTQ is normed for different cultures and non-Indigenous populations, the applicability of this measure to the Aboriginal Australian cohort included in this study is questionable. Further, as the types and frequency of traumas endured by marginalized communities differ from the general population, especially those communities who have endured colonization (Gone *et al.*, 2019; Smallwood *et al.*, 2021), the CTQ alone is not enough to evaluate trauma. In addition, the lack of objective or longitudinal measures of physical activity also limits one's ability to draw conclusions about the moderating effect of physical activity on relationships between trauma and mental health. Physical activity over the last 3 months alone may not be indicative of lifetime or general patterns of activity. Further, as this study was cross-sectional, the authors are unable to determine whether depressive symptoms preceded lack/high levels of physical activity or vice versa. Finally, there were a number of limitations of the qualitative portion of the study. A sample of seven women is insufficient to reach saturation (themes are repeated by participants and no new insights emerge), and no evidence is provided that the authors attempted to reach saturation. Indeed, among studies with a homogeneous study population, 4–8 separate focus groups are recommended to reach saturation (Hennink and Kaiser, 2022). A sample of women only and recruitment from only one social group limits the generalizability of the authors' findings.

Despite limitations noted here and by the authors, given the poor access to care and disproportionately poor mental health outcomes in Indigenous populations, determining low cost, minimally intensive, non-clinician delivered interventions is of great import. Physical inactivity has been shown to contribute to mood symptoms among high-risk, non-Indigenous populations with histories of childhood trauma (Aas *et al.*, 2021), and thus is a reasonable intervention target. However, the small proportion of explained variance in depression accounted for by the interaction of trauma and physical activity reinforces the notion that there are a number of factors that contribute to these relationships that may provide more salient intervention targets. Collaborating with Indigenous populations while designing and implementing research studies, as was done here, may help to inform the population and community-level interventions to address intergenerational, historical, and ethnic trauma. Future research into culturally specific interventions that identify, acknowledge, and account for traumas specific to Indigenous peoples may result in improved mental health outcomes among these marginalized groups.

Conflict of interest

None.

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