EDITOR'S CHOICE

Quantitative - other

The reciprocal relationship between physical activity and depression in older European adults

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Implications for practice and research

- The study highlights the mental health benefits of regular physical activity in the prevention of future depressive illness among older adults.
- Physical activity appears to be effective for promoting mental health and preventing depression, although further study is needed of different types of depression, for example, recurrent or chronic depression.
- Future studies, specifically randomised trials, should also determine the relationship between dose, and type, of physical activity and depression, and unexpected events in a prospective design if physical activity is to be routinely recommended.

Context

Depression is approximately twice as prevalent among women compared with men and is associated with functional disability, co-morbid medical conditions and social deprivation.[1] Longer life expectancy is leading to a growing ageing population for whom depression is a major public mental health problem. Greater physical activity can prevent the onset of depression and reduce symptoms of depression in older adults[2] and children and adolescents.[3 4] Regular physical activity may be an adjunct treatment for depression.[5] However, reverse causality is often a possible explanation for previous findings, and even in prospective designed studies, the interactive confounding effects of age, gender, physical activity and depression have not been fully investigated.

Methods

The two-wave cross-lagged panel design with a 2-year follow-up used structural equation modelling to investigate the reciprocal nature of the physical activity and depression in a community sample of older adults. The study evaluates the moderating effects of gender and age. The study tested two effects: physical activity causing depression and depression causing physical activity. The cross-lagged modelling technique is widely used to assess causal associations in data derived from non-experimental, longitudinal research designs.

Findings

The study found that higher levels of physical activity were associated with lower levels of affective suffering and motivation in cross-sectional analyses at baseline and at follow-up. Lower baseline physical activity was associated with more depressive symptoms at follow-up 2 years later. The trends seemed strongest for men, but there were no significant differences between men and women. There was not an association between baseline depressive symptoms and later physical activity at follow-up in the overall sample. Depression to physical activity relationships were found primarily in younger age groups (<65), whereas physical activity to depression relationships were primarily supported in older age groups (>65).

Commentary

Lindwall and colleagues' study provides additional evidence on the benefits of physical activity preventing incident depression in older adults. This study supports other cross-sectional and longitudinal studies. The promotion of physical activity in the prevention of depression may be cost-effective and physical activity as an adjunct treatment may avoid the adverse effects of antidepressant medications. However, more evidence is needed from high-quality studies with adequate power and sample size. These studies should help understand the mechanisms that link physical activity and its preventive effects, whether these are mediated by specific types of activity or other factors like leisure time, living near appropriate facilities, social support and levels of co-morbid health problems.

Future studies should include additional covariates including culture and ethnicity, as moderating or precipitating factors, rather than control for them; furthermore studies are needed to show a dose-response relation between activity (type and intensity) and phenotypes for clinical depression.[6] The new mental health policy calls for a focus on cost-effective preventive interventions in promoting both physical and mental well-being.[7] Physical and mental healthcare professionals might prioritise promotion of physical activity in their interventions. However, benefits must be weighted against injuries, accidents and unexpected events; these need to be assessed in randomised controlled trials and other study types as appropriate.

Competing interests None.

References

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