

Associations between physical activity, sitting time, and time spent outdoors with mental health during the first COVID-19 lock down in Austria

- Haider S.^a,
- Smith L.^b,
- Markovic L.^{a,c},
- Schuch F.B.^d,
- Sadarangani K.P.^{e,f},
- Sanchez G.F.L.^g,
- Lopez-Bueno R.^h,
- Gil-Salmerón A.ⁱ,
- Rieder A.^a,
- Tully M.A.^j,
- Tschiderer L.^k,
- Seekircher L.^k

Abstract

Measures implemented to reduce the spread of SARS-CoV-2 have resulted in a decrease in physical activity (PA) while sedentary behaviour increased. The aim of the present study was to explore associations between PA and mental health in Austria during COVID-19 social restrictions. In this web-based cross-sectional study (April–May 2020) moderate-to-vigorous physical activity (MVPA), sitting time, and time spent outdoors were self-reported before and during self-isolation. Mental well-being was assessed with the Warwick-Edinburgh Mental Well-being Scale, and the Beck depression and anxiety inventories. The majority of the participants ($n = 652$) were female (72.4%), with a mean age of 36.0 years and a standard deviation (SD) of 14.4. Moreover, 76.5% took part in ≥ 30 min/day of MVPA, 53.5% sat ≥ 10 h/day, and 66.1% spent ≥ 60 min/day outdoors during self-isolation. Thirty-eight point five percent reported high mental well-being, 40.5% reported depressive symptoms, and 33.9% anxiety symptoms. Participating in higher levels of MVPA was associated with higher mental well-being (odds ratio = OR: 3.92; 95% confidence interval = 95%CI: 1.51–10.15), less depressive symptoms (OR: 0.44; 95%CI: 0.29–0.66) and anxiety symptoms (OR = 0.62; 95%CI: 0.41–0.94), and less loneliness (OR: 0.46; 95%CI: 0.31–0.69). Participants sitting < 10 h/day had higher odds of mental well-being (OR: 3.58; 95%CI: 1.13–11.35). Comparable results were found for spending ≥ 60 min/day outdoors. Maintaining one's MVPA levels was associated with higher mental well-being (OR = 8.61, 95%CI: 2.68–27.62). In conclusion, results show a positive association between PA, time spent outdoors and mental well-being during COVID-19 social restrictions. Interventions aiming to increase PA might mitigate negative effects of such restrictions. © 2021 by the authors. Licensee MDPI, Basel, Switzerland.

Author keywords

Austria; COVID-19; Mental health; Physical activity; Sitting time