

Physical activity levels and well-being sink worldwide during coronavirus restrictions

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During the first lockdown people were a good 40 percent less active, as shown by an international study led by Goethe University Frankfurt. Psychological well-being sank as well; the portion of people at potential risk for depression tripled. The authors fear long-term consequences and urge that this be taken into account going forward.

Twenty scientists from 14 countries warn of a hidden "pandemic within the pandemic" in two current publications. On the one hand, physical activity levels have gone down significantly, on the other hand, psychological well-being has suffered. "Governments and those responsible for [health systems](#) should take our findings seriously," emphasizes the author team, headed by Dr. Jan Wilke from the Institute for Sport Sciences at Goethe University Frankfurt.

About 15,000 people in participating countries answered standardised questionnaires as part of an international survey. In April/May 2020, they reported physical activity levels (13,500 participants) as well as their mental and physical well-being (15,000 participants) before and during the pandemic-related restrictions.

Older individuals especially affected

"The results show drastic reductions in physical activity and well-being," says Wilke. More than two thirds of those questioned were unable to maintain their usual level of activity. Moderate [exercise](#) decreased by an

average of 41 percent according to self-reported data—this includes anything that increases heart rate and breathing, such as brisk walking, running, cycling or even strenuous gardening.

The proportion of vigorous exercise during which people sweat and clearly run out of breath fell by a similar amount (42 percent). The effects were somewhat higher among professional athletes and particularly active people, as well as comparatively young and old people. The decline in activity was particularly noticeable among people over 70 years of age, who were 56 to 67 percent less active than before. "We know that physical inactivity, especially in older people, can lead to changes that are difficult to reverse after only two weeks—for example, in body fat percentage or insulin sensitivity," warn the study authors.

Exercise helps prevents disease and reduces mortality

The WHO recommends at least 150 minutes of moderate or 75 minutes of intensive physical activity per week—81 percent of the study participants achieved this before the pandemic, but only 63 percent during the lockdowns. Yet sufficient exercise can reduce mortality by up to 39 percent, as a 2015 study showed. Data suggests that too little exercise plays a role in about one in ten premature deaths, because physical activity reduces the likelihood of, for example, [high blood pressure](#), [metabolic disorders](#) such as type 2 diabetes, and cancer.

Exercise is known to activate the immune system because it promotes blood circulation and activates lymphocytes and messenger substances (cytokines) that are important for immune defence. Studies show that physically active people are less susceptible to influenza, rhino and herpes viruses and respiratory infections in general. So it may be that exercise also offers protection against severe COVID-19 by reducing risk factors such as obesity. Physical health and exercise also reduce the risk of mental health problems such as depression and anxiety disorders.

Mental well-being drastically reduced

In another part of the study, the team of authors asked about mental well-being during the pandemic restrictions. 73 percent of the study participants stated that their well-being had deteriorated. The perceived quality of life as measured by the WHO well-being Index, which measures mood, relaxation, activity, rest and interest, dropped on average from 68 percent before the pandemic to 52 percent during the first lockdown phase.

Above all, people felt less "active and full of energy" and led a life less "filled with interesting things". The proportion of very low scores indicating a possible risk of depression tripled from 15 to 45 percent. "These effects were stronger among women and younger people," the study says. "More attention should be paid to the needs of women in particular, as they are significantly more vulnerable."

Nonetheless, 14 to 20 percent of the respondents also stated that their health had improved—the authors see more family time, greater work autonomy, fewer business trips or a changed perception of health as possible reasons. "But a large part of the population may still be suffering from barely visible health effects of the pandemic," the team of authors warns.

This could also translate into rising health costs: According to US data, the annual expenditure for inactive or insufficiently active people increases by 1200 and 600 euros respectively—this would add up to two to four million euros after one year just for the 3104 people from the survey who did not exercise enough during the lockdown.

The results of these first multinational studies are likely to be relevant for an estimated four billion people worldwide who were affected by the restrictions of the first coronavirus wave in the spring of 2020. However,

the data was predominantly collected through electronic media, so populations without internet were not included. Also, no differentiation was made according to factors such as living environment, education and social status. In addition, the data is based on self-assessments, not measurements, which may distort retrospective perceptions in particular. "Nevertheless, our results show that the issues of physical activity and well-being belong on the policy agenda," Wilke emphasises.

"Governmental and health-related decision-makers need to develop strategies to mitigate the loss of physical activity," write the authors. They suggest better public education, creating exercise opportunities with a low likelihood of infection, or offering effective home exercise programmes. Among numerous other health facets, this would have a particularly positive effect on mental well-being.

Negative effects similar to those observed in these studies should be avoided at all costs in future pandemics. "Unfortunately, [physical activity](#) and exercise do not have a strong lobby and are usually neglected in public discourse," says Wilke. "Yet they can greatly help us to better cope with the pandemic."

More information: Drastic Reductions in Mental Well-Being Observed Globally During the COVID-19 Pandemic: Results from the ASAP Survey. *Front. Med.* 8:578959 (2021), www.frontiersin.org/articles/10.3389/fmed.2021.578959/full

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