

More exercise and fewer hours watching TV cuts sleep apnoea risk

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Being more physically active and spending fewer hours per day sitting watching TV is linked to a substantially lower risk of developing obstructive sleep apnoea (OSA), according to new research published in the *European Respiratory Journal*. It is the first study to simultaneously evaluate physical activity and sedentary behaviour in relation to OSA risk.

OSA is a condition where breathing stops and starts many times during sleep. It reduces [oxygen levels](#) in the blood and common symptoms include snoring, disrupted sleep and feeling excessively tired. Serious complications associated with poorly managed OSA include an increased risk of high blood pressure, stroke, heart attack, irregular heartbeat, and type 2 diabetes. It is estimated that around 1 billion adults aged 30-69 years are affected by mild to severe OSA globally.

The study was led by Tianyi Huang, Assistant Professor and Associate Epidemiologist at Brigham and Women's Hospital and Harvard Medical School, U.S.. To examine whether being less physically active and more sedentary increases OSA risk, Professor Huang and

colleagues analysed health data from more than 138,000 US men and women who did not have clinically diagnosed OSA at the beginning of the study. By the end of the study follow-up period of 10-18 years, 8,733 participants were reported to have OSA diagnoses.

The researchers accounted for other factors that can impact OSA risk within their analyses, including participants' age, body-mass index (BMI), and whether they smoked or drank alcohol.

When the researchers compared people who did activities equivalent to two hours per week of walking at an average pace with people whose activity level was equivalent to three hours of running per week, they found that the participants with the higher activity level had a 54% [lower risk](#) of developing OSA.

People who spent more than four hours per day sitting watching TV had a 78% higher OSA risk than the least sedentary people, while people who did sedentary work had a 49% increased risk of OSA compared with the least sedentary people.

However, the data suggests that for people who have to spend long hours sitting every day, such as people with office jobs, increasing [physical activity](#) in their leisure time can lower OSA risk. Similarly, those who are not able to do much physical activity due to physical constraints could also lower their OSA risk by reducing sedentary hours, by standing or doing other gentle activities more frequently.

Professor Huang explained: "We saw a clear relationship between levels of physical activity, [sedentary behaviour](#) and OSA risk. People who followed the current World Health Organization physical activity guidelines of getting at least 150 minutes of moderate activity per week, and who spent less than four hours per day sitting watching TV, had substantially lower OSA risk. Importantly, we saw that any additional increase in physical

activity, and/or a reduction in sedentary hours, could have benefits that reduce the risk of developing OSA. Provided by European Lung Foundation

"The difference in OSA risk between sedentary work and time spent sitting watching TV could be explained by other behaviours that are related to those activities. For example, snacking and drinking [sugary drinks](#) is more likely to go along with watching TV compared with being sedentary at work or elsewhere, such as sitting during travelling. This could lead to additional weight gain, which we know to be a risk factor OSA."

Professor Anita Simonds, who was not involved in the research, is President of the European Respiratory Society and Consultant in Respiratory and Sleep Medicine at Royal Brompton Hospital, UK. She said: "OSA is a common and pervasive disorder that can have a serious impact on the quality of people's lives. Although OSA can be managed with modern treatments, only a minority of studies focus on prevention. Health professionals should prioritise prevention and support people who are at-risk of developing OSA to be more active before it is too late."

"This study adds to the evidence on the importance of maintaining an [active lifestyle](#) on preventing lung disease, and it is encouraging that even a small increase in physical activity or reduction in sedentary hours could reap potential benefits. It is therefore an important message to get across to our patients and their families in primary care and respiratory clinics."

The researchers say the study relied on self-reported [health data](#), which is potentially less reliable, noting that future research could make use of wearable health monitoring technologies to improve the accuracy of the data.

More information: Liu Y, Yang L, Stampfer MJ, et al. Physical activity, sedentary behavior, and incidence of obstructive sleep apnea in three prospective US cohorts. *Eur Respir J* 2021; in press, doi.org/10.1183/13993003.00606-2021

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