

Exercise an effective protection against life-threatening cerebral hemorrhage

June 25 2019



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A Finnish study demonstrates that as little as a half-hour of light exercise per week effectively protects against subarachnoid hemorrhage. Among such disorders of cerebral circulation, subarachnoid hemorrhage (SAH)

is the most lethal, with as many as half of those affected dying within three months. As the related mortality rate is high, a search for predisposing factors has been underway around the globe for the past few decades. Previously, smoking and high blood pressure have been observed to heighten the risk of an SAH hemorrhage, but evidence of the effects of exercise has remained scarce.

In a Finnish follow-up study published in *Scientific Reports*, the effects of exercise on SAH risk were investigated in a cohort of roughly 70,000 Finns gained from the FINRISK population survey. The findings indicate that as little as a half-hour of light exercise per week reduces the risk of SAH by approximately 5 percent, with the benefit increasing proportionally to the amount of exercise. This can be achieved, for example, by walking or cycling to work, for instance.

"Even moderate physical exercise, such as a 30-minute walk or bike ride four days a week reduces the risk of SAH by roughly 20 percent, regardless of age and gender," says physician Joni Lindbohm, the principal author of the research article.

"As such, the finding did not really come as a surprise, as exercise is known to work well in preventing many other cardiovascular diseases. However, the extent and comprehensive nature of the benefit among various groups of people was a positive surprise."

The study also demonstrated the favorable effect of increased exercise in connection with [smoking](#) and [high blood pressure](#), the other SAH risk factors. For smokers in particular, exercise reduces the risk as much as twice the amount applicable to the rest of the population.

"However, what must not be overlooked is the fact that smoking remains the No. 1 risk factor for SAH, and that quitting smoking is the principal way of preventing the appearance of the disorder," Lindbohm notes.

Most SAH hemorrhages are the result of ruptured cerebral aneurysms, causing blood to flow from the largest cerebral arteries into the space between meninges, the membranes surrounding the brain, which increases intracranial pressure and reduces cerebral circulation.

"Even with no accurate scientific evidence of the biological mechanism of action produced by [exercise](#) in terms of SAH, the reduced risk is most likely connected with a reduction in a systemic inflammatory state, which also affects the walls of cerebral arteries," neurosurgeon Miikka Korja explains.

According to Lindbohm and Korja, key to minimizing the risk of SAH is quitting smoking, balancing one's blood pressure and exercising regularly.

More information: Lindbohm J, Rautalin I, Jousilahti P, Salomaa V, Kaprio J, Korja M. Physical activity associates with subarachnoid hemorrhage risk- a population-based long-term cohort study. *Sci Rep*, 2019. [DOI: 10.1038/s41598-019-45614-0](https://doi.org/10.1038/s41598-019-45614-0)

Provided by University of Helsinki

Citation: Exercise an effective protection against life-threatening cerebral hemorrhage (2019, June 25) retrieved 18 April 2024 from <https://medicalxpress.com/news/2019-06-effective-life-threatening-cerebral-hemorrhage.html>

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