

Obesity does not protect against subarachnoid hemorrhage, study finds

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Subarachnoid hemorrhage (SAH) is a life-threatening condition that kills, in contrast to other cerebrovascular disturbances, primarily healthy people of working age. Whereas smoking and high blood pressure are

the most well-known risk factors associated with the condition, the role of many other lifestyle risk factors as causes of SAH has been unclear.

For a long time, obesity has been linked with a heightened risk of developing a number of diseases of the [cardiovascular system](#), but findings pertaining to subarachnoid [hemorrhage](#) have been the opposite: The condition appears to occur at a lower frequency in overweight (body mass index 25–30) and obese individuals (body mass index >30) compared to underweight and normal-weight people. While the same observation has been repeatedly made in population-based follow-up studies, no explanation has been identified.

A study carried out by Finnish and Norwegian researchers, published in *Stroke*, investigated whether obesity actually protects against subarachnoid hemorrhage. Unlike in prior studies, this was the first time that researchers comprehensively considered factors that might confound the findings, including people's [smoking](#) habits and the prevalence of hypertension.

The results were very clear: Obesity does not protect against subarachnoid hemorrhage. According to Ilari Rautalin, the first author of the study, the findings provide a simple explanation of the previous observations.

"Smoking is much more common among underweight and normal-weight people than overweight and obese people. Neglecting to take smoking habits into account produces a false observation of subarachnoid hemorrhage occurring less often in obese people, since smoking is less common among them than others," explains Rautalin, MD, from the University of Helsinki.

A study based on a dataset of over 200,000 people

A research dataset containing follow-up data for more than 200,000 individuals collected over almost 50 years was utilized in the study. Miikka Korja, docent of neurosurgery and the principal investigator of the study, emphasizes the significance of extensive and high-quality research datasets.

"This collaborative Nordic study serves, once again, as an excellent illustration of why studies on the [risk factors](#) associated with cerebral hemorrhage should be based on large and high-quality research datasets. Risk factors related to lifestyle are rarely independent of one another, which makes it challenging to investigate their interconnections. It's easy to draw incorrect conclusions on the independent effects of individual risk factors," notes Korja, head of section at the Department of Neurosurgery of the Helsinki University Hospital.

In conclusion, Rautalin and Korja emphasize that while the effect of obesity itself appears to be minor in connection with subarachnoid hemorrhage, many other adverse health effects caused by [obesity](#) should be taken into consideration. Therefore, the researchers recommend that the goal should continue to be to achieve and maintain normal weight, refrain from smoking, and effectively prevent and treat hypertension.

The study was carried out collaboratively by the University of Helsinki and the Finnish Institute for Health and Welfare as well as the University of Tromsø and the Norwegian University of Science and Technology in Trondheim, Norway. The Finnish component of the study was composed of approximately 71,000 individuals who participated in the FINRISK study in 1972–2012.

More information: Ilari Rautalin et al, Obesity Does Not Protect From Subarachnoid Hemorrhage: Pooled Analyses of 3 Large Prospective Nordic Cohorts, *Stroke* (2021). [DOI: 10.1161/STROKEAHA.121.034782](https://doi.org/10.1161/STROKEAHA.121.034782)

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