

Obesity at MS diagnosis linked to higher current and subsequent levels of disability

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Carrying an excessive amount of weight when diagnosed with MS (multiple sclerosis) is linked to higher current and subsequent levels of disability within a relatively short period of time, finds new research

published online in the *Journal of Neurology Neurosurgery & Psychiatry*. Reverting to a healthy weight may improve clinical outcomes for obese patients with MS, suggest the researchers.

Obesity during childhood and adolescence is associated with a heightened risk of developing MS, irrespective of other potential environmental triggers. But it's not clear if it might also be linked to faster disability progression after diagnosis.

To try to find out, the researchers drew on 1,066 participants with relapsing-remitting MS from across Germany who were taking part in The German National MS (NationMS) study. More than a quarter (29.5%, 315) of them were men with an average age of 33.

When MS was diagnosed, 159 patients (15%) were obese with a BMI of at least 30. Co-existing conditions associated with [obesity](#) (type 2 diabetes, high blood pressure) were reported in 68 patients (just under 6.5%).

Their levels of disability were monitored every 2 years for a total of 6 years, using the Expanded Disability Status Scale (EDSS). This ranges from 0 to 10 in 0.5 unit increments.

Obesity at diagnosis wasn't associated with a higher annual relapse rate, or greater build-up of nerve damage, as seen on MRI brain scans, over the 6-year monitoring period.

But levels of disability were higher at the time of diagnosis and at each of the subsequent three time points, after factoring in age, sex, and smoking. And the average time it took obese patients to accumulate greater levels of disability was shorter. They reached EDSS 3 at just under 12 months, on average, compared with nearly 18 months for those who weren't obese.

Obese patients were also more than twice as likely to reach EDSS 3 within 6 years, irrespective of what type of drug treatment they were getting.

Complete health data were available for 81 (51%) of the obese MS patients and for 430 (just under 47.5%) of the others.

The risk of reaching EDSS 3 within 6 years in this group was again more than twice as high in [obese patients](#) as it was in those who weren't, falling to an 84% heightened risk after factoring in sex, age, and smoking.

Importantly, overweight (BMI 25–29.9) at diagnosis wasn't significantly associated with higher disability then or subsequently, or with a heightened risk of reaching an EDSS of 3 after 6 years.

This is an observational study, and as such, can't establish cause. And the researchers acknowledge that BMI was assessed only once at the start of the study while co-existing conditions were limited to type 2 diabetes and [high blood pressure](#), with only a small number of participants affected. But previous research has linked a reduction in brain [gray matter](#) with obesity, they point out.

"Our finding that obesity, but not overweight in MS patients, is associated with a poorer outcome suggests a threshold effect of body mass on disability accumulation in MS," they write, adding that obesity is a modifiable risk factor.

"These data suggest that dedicated management of obesity should be explored for its potential merit in improving long-term [clinical outcomes](#) of patients diagnosed with MS," they conclude.

More information: Association of obesity with disease outcome in

multiple sclerosis, *Journal of Neurology Neurosurgery & Psychiatry* (2022). [DOI: 10.1136/jnnp-2022-329685](https://doi.org/10.1136/jnnp-2022-329685)

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