

High unexpressed anger in MS patients linked to nervous system damage, not disease severity

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People with Multiple Sclerosis (MS) feel more than twice as much withheld anger as the general population and this could have an adverse effect on their relationships and health, according to a study published in the December issue of the *European Journal of Neurology*.

Italian researchers assessed 195 patients with MS, using a range of scales that measure anger, depression and anxiety, and then compared them with the general population.

They were surprised by the results, which showed that while patients experienced almost twice the normal level of withheld anger and exerted low levels of control on their anger, their expressed anger levels were similar to the general population.

This, together with the fact that the elevated withheld anger levels were not related to the severity of the patients' MS, suggests that these inconsistent changes were caused by [nervous system](#) damage, rather than an [emotional reaction](#) to the stress of the disease.

"We believe that the higher levels of withheld anger shown by the study subjects is due to demyelination, loss of the substance in the [white matter](#) that insulates the [nerve endings](#) and helps people receive and interpret messages from the brain" explains lead researcher Dr Ugo Nocentini from the IRCCS S Lucia Foundation in Rome.

"The way we process anger is controlled by complex interconnections between the subcortical and cortical systems, notably the amygdale and basal ganglia and the medial prefrontal cortex. We believe that the demyelination process that causes the root symptoms of MS also disrupts the pathways that control how we deal with withheld anger."

The patients who took part in the study comprised 150 with relapsing-remitting MS and 45 with progressive MS. More than two-thirds (68 per cent) were women, the average age of the participants was 40 and the average time since diagnosis was 11 years.

Researchers evaluated the participants using the State Trait Anger Expression Inventory, the Chicago Multiscale [Depression](#) Inventory and the State Trait Anxiety Inventory.

The researchers then looked at age and sex-matched subjects in the general population and identified the levels of anger experienced by the 25 per cent of people with the highest scores.

They found that MS patients:

- Were more than twice as likely to experience high levels of withheld anger, with 60 per cent of patients recording the same high levels as the top 25 per cent of the general population.
- Exerted a low level of control on their anger, with just 11 per cent of patients reporting the same high levels of control compared to the top 25 per cent of the general population.
- Were about the same as non MS patients when it came to expressed anger, with 30 per cent of patients reporting the same high levels as the top 25 per cent of the general population.

During the study the authors also compared the anger scores against selected demographic and clinical characteristics and found they were independent of age, education, disease duration and course, disability and fatigue severity. The only notable difference was that women reported higher levels of current anxiety.

"Our findings clearly show that anger characteristics in MS patients differ from those observed in the general population and the overall results surprised the research team" concludes Dr Nocentini.

"For example, patients reported low levels of anger control and high levels of withheld anger, yet the scores for expressed anger were similar to those of the general population.

"We would have expected greater consistency between withheld and expressed anger and higher levels of expressed anger as a consequence of low anger control."

The authors conclude that damage to the fibres in the areas of the brain where anger issues are processed is the most logical explanation. They also say the findings have important implications for clinical practice.

"Anger disrupts interpersonal relationships and this is particularly true for withheld anger, which might go unrecognised by other people" says Dr Nocentini. "Withheld anger has been reported to be associated with physical problems, in particular high blood pressure and vascular disorders, and may have a negative effect on the general health of MS patients.

"Because withheld anger has no, or few, overt manifestations, and is unlikely to be recognised by clinicians or reported by patients, it is important that MS patients are asked if they experience abnormal anger."

More information: An exploration of [anger](#) phenomenology in [multiple sclerosis](#). Nocentini et al. *European Journal of Neurology*. 16, 1312-1317. (December 2009). [DOI: 10.1111/j.1468-1331.2009.02727.x](#)

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