

Parental Smoking Increases Risk for Multiple Sclerosis, Multinational Study Shows

HELSINKI, FINLAND, June 30, 2024 /EINPresswire.com/ -- Selective exposure to parental smoking at an early age may differentially increase MS risk in the general population, according to a study that will be presented on Sunday, 30 June at EAN 2024, the [10th Congress of the European Academy of Neurology \(EAN\)](#) in Helsinki, Finland.



Selective exposure to parental smoking at an early age may differentially increase MS risk in the general population and independently from the subject's past or current smoking habit,"

Dr. Caterina Ferri

Using the data collected within the Environmental Risk Factors In Multiple Sclerosis (EnvIMS) study, a large multinational case-control population-based study, researchers investigated the association between MS and smoking habit, maternal smoking during pregnancy and maternal or paternal smoking in Canadian, Italian, and Norwegian populations.

An association between MS and maternal smoking during pregnancy and maternal smoking was observed among Norwegians. A tendency for paternal smoking to be

associated with MS was found among Canadians, while no significant association to parental smoking was detected in the Italian population.

"Selective exposure to parental smoking at an early age may differentially increase MS risk in the general population and independently from the subject's past or current smoking habit," said Caterina Ferri, a neurologist and researcher from the University Hospital of Ferrara, who led the study which will be presented at EAN 2024 in Helsinki.

However, the absence of an association between MS and past exposure to parental smoking in some populations may reflect its smaller effect on MS risk compared to other factors, she added.

"There are a lot of genetic and environmental risk factors that interact with each other in MS. It is a complex interplay," she explained. "The timing of exposure to environmental factors, for example breastfeeding or infections such as mononucleosis, is also important. During the early stages of life, an infection can be protection, but later in life it can be a risk factor."

MS is an inflammatory, demyelinating disease of the central nervous system the onset of which

typically occurs in people aged between 20 and 40. The disease can also develop earlier in life during childhood or later in people older than 50.

“The susceptible period is believed to be in the early stages of life, because the immune system is still developing in that phase. So endogenous factors may affect its development,” Ferri said.

New Results on Risk Factors and Patient Prognosis

While active smoking is a known risk factor for MS development and poor prognosis, the impact of past exposure to parental smoking, including maternal smoking during pregnancy, had not yet been properly defined.

“We wanted to study if parental smoking could be associated with MS status because knowledge in this field is scarce,” Ferri said. “If you compare two studies that have recently been published on maternal smoking during pregnancy, they say the opposite. One says there is no association, while the other concludes that children of mothers who smoked had a higher risk of developing MS. It is confusing.”

Research must distinguish between maternal smoking that happens in the prenatal phase, and parental smoking, which is passive smoking during childhood.

“It is hard to investigate this field,” she said. “Another factor to be considered is that if your parents smoke, you are more predisposed to becoming a smoker, which affects per se the risk of developing MS. So, there is a lot of confounding in this kind of study if you do not adjust the results. You may find results that do not reflect the reality.”

Future research should continue to explore MS risk factors, but also patient prognosis, she believes. “Environmental exposure may affect not just the risk but also future disability of the patient.”

Association with parental smoking needs to be investigated further, as other fields of medicine suggest that exposure to parental behaviour may affect the child’s risk of developing non communicable diseases, such as diabetes and cardiovascular diseases.

“It’s a new concept that has never really been applied in multiple sclerosis, especially prenatal - intrauterine or preconception - exposure. It could be interesting to explore this field,” she concluded.

EnvIMS is a large multinational case-control population-based study resulting from the collaborative efforts of researchers in Italy, Norway, Canada, Serbia and Sweden and is funded by the Italian and Canadian MS Foundations and academic and health institutions in Italy,

Norway and Canada.

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Notes to Editors:

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