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Got the sniffles? Migraines spike with allergies and hay fever

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People with migraine who also battle allergies and hay fever (rhinitis) endure a more severe form of headaches than their peers who struggle with migraine, but aren't affected by the seasonal or year-round sniffles, according to researchers from the University of Cincinnati (UC), Montefiore Medical Center and the Albert Einstein College of Medicine of Yeshiva University and Vedanta Research.

About 12 percent of the U.S. population experiences migraine, which is three times more common in women than men. Allergies and hay fever—also known as allergic rhinitis—are quite common as well, affecting anywhere from a quarter to half of the U.S. population. They produce symptoms such as a stuffy and runny nose, post nasal drip and itching of the nose.

The results were published in the Monday, Nov. 25, 2013, online edition of the journal *Cephalalgia*. The study is one of the first tying the relationship of rhinitis—irritation and inflammation of the nasal mucus membrane caused by allergic and non-allergic triggers—to the frequency of migraine headaches, says Vincent Martin, MD, professor of medicine in UC's division of general internal medicine, co-director of the Headache and Facial Pain Program at UC and lead author of the study.

"We are not sure whether the rhinitis causes the increased frequency of headaches or whether the migraine attacks themselves produce symptoms of rhinitis in these patients," Martin says. "What we can say is if you have these symptoms, you are more likely to have more frequent

and disabling headaches."

Martin and Jonathan Bernstein, MD, professor of medicine and director of clinical research in the division of immunology, allergy and rheumatology at UC, teamed with Richard Lipton, MD, and Dawn Buse, PhD, both of Montefiore and Einstein; and Kristina Fanning, PhD; Daniel Serrano, PhD; and Michael Reed, PhD, all from Vedanta Research, to conduct the study.

The researchers analyzed data from the American Migraine Prevalence and Prevention (AMPP) Study. A 2008 questionnaire was filled out by nearly 6,000 AMPP Study respondents from across the country who have experienced migraine. To define rhinitis, participants were asked the question, "Do you suffer from nasal allergies, seasonal allergies or hayfever?"

Rhinitis occurred in two out of three people with migraine in this study. Bernstein adds, "The fact that rhinitis occurred in more than half of these individuals emphasizes that these disorders are intimately linked."

Based on the results, researchers found the odds of experiencing more frequent headaches for individuals with rhinitis and migraine was 33 percent greater than those battling migraines without rhinitis.

The study also categorized participants with rhinitis in subsets—allergic, mixed and non-allergic rhinitis—based upon their response to questions regarding specific allergic and non-allergic rhinitis triggers. They were considered to have "allergic rhinitis" if they "only" reported having nasal symptoms with exposure to allergic triggers such as cats, dogs, molds or tree pollens. They were called "mixed rhinitis" if they "not only" had nasal symptoms with allergic triggers, but also had them with non-allergic triggers such as cigarette smoke, weather changes, perfumes and gasoline. They had "non-allergic rhinitis" if they "only" reported having

symptoms when exposed to non-allergic triggers.

Those with mixed rhinitis—experiencing both allergic and non-allergic triggers—fared worse than others. They were 45 percent more likely to experience more frequent headaches and 60 percent more likely to endure headaches more disabling than those without rhinitis.

These findings could have implications for treatment, says Richard Lipton, MD, co-director of the Montefiore Headache Center, professor of neurology at Einstein and principal investigator of the study.

"The nose has largely been ignored as an important site involved in the initiation and exacerbation of migraine headache," Lipton explains. "If rhinitis exacerbates migraine, as these results suggest, treating rhinitis may provide an important approach to relieving headache in people with both disorders."

This builds on past research conducted by UC researchers regarding the link between allergic rhinitis and migraine, explains Martin. They found in a past study that migraine patients with allergic rhinitis receiving allergy shots had 52 percent fewer migraine attacks than those not receiving allergy shots.

"This and other research indicate that allergies and hayfever may not just represent innocent bystanders in the migraine patient," Martin states. "Clearly more research needs to be done to define their precise role."

Provided by University of Cincinnati Academic Health Center

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