

JOINT EVENT

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**Which came first, the risk of migraine or the risk of asthma? a systematic review and meta-analysis**

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**Background:** we conducted this meta-analysis to systematically assess the association and risk of the migraine in the patient with asthma and vice versa.

**Methods:** This systematic review and meta-analysis was conducted according to the Meta-analysis of Observational Studies in Epidemiology (MOOSE) and Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. We systematically searched publishes articles indexed in PubMed, Scopus, Cochrane library, PsycINFO, CINAHL, ISI Web of Science, Science Direct from inception, and Embase databases until June 2017. The quality assessment of the involved studies was done using the Newcastle-Ottawa Scale (NOS).

**Results:** Eight studies with 389,583 participants were reviewed and selected for data extraction. Among the selected studies, 5 were reported the association between migraine with asthma risk, and the rest three studies reported the risk of asthma in patient with migraine compared to non-moraine individuals. Odds ratio (OR) of migraine for patient with asthma as compared with non-asthmatic individuals was 1.62 (95% CI 1.43–1.82). Data pooling using a random-effect model showed that migraine was associated with a significant increased risk of asthma (Relative risk (RR): 1.56; 95% CI: 1.51-1.60; P<00001). Besides, subgroup and sensitivity analyses supported the positive association between asthma and migraine, and risk of asthma in migraine patients.

**Conclusion:** Now it is unknown if control of the asthma will impact the severity of migraines or vice versa, but it is necessary to perform more research to further explain the mechanisms through which asthma increases the frequency of migraine or vice versa. If two conditions linked, once an individual undergo better control of asthma symptoms, might the excruciating migraine ease, too.

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