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## ORIGINAL ARTICLE

### Increased Risk of Migraine among Students with Asthma: Results of Headache and Asthma Study among University Students

*Risque Accru de Migraine chez les Etudiants Asthmatiques: Résultats de l'Etude sur les Maux de Tête et l'Asthme chez les Etudiants Universitaires*

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#### ABSTRACT

**BACKGROUND:** Several studies in developed countries have investigated the relationship between migraine and asthma. Objective: To examine the relationship between asthma and migraine among university students in a low middle-income country.

**METHODS:** We conducted a cross-sectional study across three universities in the middle belt region of Nigeria. A self-administered questionnaire developed from the International Classification of Headache Disorders was used to screen for migraine. The European Community Respiratory Health Survey (ECRHS) survey tool screened for asthma and its related conditions. Migraine was diagnosed in subjects with recurrent, moderate to severe unilateral throbbing headaches associated with nausea, vomiting, or visual disturbances. Asthma was defined as reporting a previous asthma attack or currently taking asthma medication within the preceding 12 months.

**RESULTS:** The frequency of asthma was significantly higher among those with migraine than those without migraine (28.6% vs. 9.0%). Conversely, migraine was significantly prevalent in participants with asthma (7.1% vs. 1.9%). On multivariate analysis, there were significant associations between migraine and asthma [ $aOR = 2.56$  (95% CI 1.15–5.77)]. Other factors associated with migraine were female gender [ $aOR = 2.22$  (95% CI 1.06–4.65)] and family history of recurrent headache in first-degree relatives [ $aOR = 4.03$  (95% CI 1.15–5.77)].

**CONCLUSION:** Our study shows an increased frequency and risk of migraine in participants diagnosed with asthma and vice versa. These results support the bidirectional association between migraine and asthma. Physicians, therefore, should be aware of the possibility of migraine in patients with asthma who complain of headaches. **WAJM 2022; 39(3): 256–261.**

**Keywords:** Migraine, Headache, Asthma, Allergy, Association, Relationship.

#### RÉSUMÉ

**CONTEXTE:** Plusieurs études menées dans des pays développés ont étudié la relation entre la migraine et l'asthme.

**OBJECTIF:** Examiner la relation entre l'asthme et la migraine chez les étudiants universitaires d'un pays à faible revenu intermédiaire.

**MÉTHODES:** Nous avons mené une étude transversale à travers trois universités dans la région de la ceinture centrale du Nigéria. Un questionnaire auto-administré élaboré à partir de la Classification internationale des troubles de la céphalée a été utilisé pour dépister la migraine. L'enquête de la Communauté européenne sur la santé respiratoire (ECRHS) outil d'enquête dépisté pour l'asthme et ses affections connexes. La migraine a été diagnostiquée chez des sujets présentant des maux de tête lancinants unilatéraux récurrents, modérés à sévères associés à des nausées, des vomissements ou des troubles visuels. L'asthme était défini comme la déclaration d'une crise d'asthme antérieure ou en cours de prise médicamenteuse contre l'asthme au cours des 12 mois précédents.

**RÉSULTATS:** La fréquence de l'asthme était significativement plus élevée chez les personnes souffrant de migraine que chez celles sans migraine (28,6% vs 9,0%). Inversement, la migraine était significativement répandue chez participants asthmatiques (7,1 % contre 1,9 %). Sur l'analyse multivariée, il y avait des associations significatives entre la migraine et l'asthme [ $aOR = 2,56$  (IC à 95 % 1,15-5,77)]. Autres facteurs associés à la migraine étaient le sexe féminin [ $aOR = 2,22$  (95 % IC 1,06–4,65)] et antécédents familiaux de maux de tête récurrents chez les parents de premier degré [RA = 4,03 (IC à 95 % 1,15-5,77)].

**CONCLUSION:** Notre étude montre une augmentation de la fréquence et le risque de migraine chez les participants ayant reçu un diagnostic d'asthme et vice versa. Ces résultats soutiennent l'association bidirectionnelle entre migraine et asthme. Les médecins devraient donc: être conscient de la possibilité de migraine chez les patients asthmatiques qui se plaignent de maux de tête. **WAJM 2022; 39(3): 256–261.**

**Mots-clés:** Migraine, Maux de tête, Asthme, Allergie, Association, Relation.

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