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# The relationship between increased Body Mass Index and primary headache disorders in a group of antiretroviral therapy induced overweight and obese patients

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# The relationship between increased Body Mass Index and primary headache disorders in a group of Antiretroviral therapy-induced overweight and obese patients

*ABSTRACT*

**Introduction:** Primary headache disorders are highly prevalent and may be found co-morbid with other diseases, including Human Immunodeficiency Virus (HIV). Recent literature has suggested a relationship between increased Body Mass Index (BMI) and primary headaches, although the exact mechanisms are largely unknown and likely diverse. Weight gain following initiation of Antiretroviral therapy (ART) has recently emerged as a complication amongst people living with HIV. This unique population with primary headaches may exhibit an artificially-induced state of obesity, which forms the basis of this study in order to describe the relationship between increased BMI and primary headache disorders.

**Methods:** This was a cross-sectional study involving HIV positive patients on ART who had primary headaches. Participants who fulfilled inclusion criteria were enrolled in the study during their routine clinic visits. An anonymous interviewer-based questionnaire was used to record clinical and demographic data. Participants' height and weight were measured in order to calculate BMI. Fischer's exact test was used to investigate the association between the presence of primary headache, severity and frequency of headache and increased BMI. A p-value of less than 0.05 was considered evidence for statistical significance.

**Results:** There was a statistically significant association between female gender and increased BMI (OR 6.02, 95% CI, 1.32-26.21, p-value <0.02). Multivariate regression analysis

demonstrated a higher risk of increased BMI amongst participants with features of tension type headache when compared to those with migraine, however this was not statistically significant (OR 2.47, 95% CI, 0.25-24.88, p-value 0.44). There was no statistically significant relationship between increased BMI and the presence of primary headache, type of primary headache, severity, or frequency of headache in this study.

**Conclusion:** This study did not find any statistically significant relationship between increased BMI and primary headache disorders, nor any of their associated characteristics. This may be due to the small sample size, and further studies are needed to corroborate these findings.