We modeled headache status, as well as frequency of headaches and disability as dependent variables in multivariate analyses. Covariates included demographic variables, headache frequency, severity, and duration of illness, comorbidities (depression, chronic pain), use of preventive medication and use of opioids.

Of 16,577 respondents, among those aged 18 or older who had a headache in the past year who endorsed at least one of the 12 allodynia scale items (N=15,868), 11,094 (69.9%) individuals met ICHD-2 criteria for migraine (M), 1,233 (7.77%) met criteria for probable migraine (PM), 771 (4.86%) for severe episodic tension-type headache (S-ETTH), 643 (4.05%) had transformed migraine (TM) and 155 (0.98%) had other chronic daily headache (O-CDH).

RESULTS

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The relative frequency of CA (defined as an ASC-12 score of 2 or higher) was higher in those with TM (68.3%) than in episodic migraine (63.2%) (P<0.01), and in both of these groups compared to PM (42.6%), O-CDH (36.8%) and S-ETTH (36.7%) (P<0.001 for all comparisons). The ASC scores were not significantly different among PM, O-CDH, and S-ETTH. For all the primary headaches, the overall ASC scores were higher in women than in men (Figure 1).

In adjusted models for migraine, the prevalence of CA was not significantly different in Caucasians and African Americans and it did not vary with education level. CA was significantly more common in women than men [Prevalence Ratio (PR)=1.4 (95% CI=1.28-1.59)], in those with longer illness duration (10-19 years vs. < 10 years; PR=1.15, 95% CI=1.06-1.25) and those with more disability (MIDAS Grade IV vs. I, PR=1.61, 95% CI=1.46-1.75).

CONCLUSION

1. The prevalence of CA is highest in TM and episodic migraine, intermediate in PM and lower in S-ETTH and O-CDH. Therefore, CA may map onto migraine biology and to the migraine spectrum. The severity of CA also follows the same profile. CA was found to occur more often in women than in men for all primary types of headache.

2. In migraineurs, other independent risk factors for CA are high attack frequency, long disease duration and disability. Depression is independently associated with higher CA scores for all headache types.