



Epidemiology, Burden and Patterns of Treatment for Adolescents in the United States

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BACKGROUND

In adults, migraine prevalence varies inversely with household income and education. According to the social causation hypothesis, factors associated with low socioeconomic status, such as stress, poor diet or limited access to medical care act to increase disease prevalence. The opposing social selection hypothesis implies that disease related role dysfunction so interfere with educational and occupational functioning that it leads to low income. If the social causation hypothesis is correct, as adolescents make at most modest contributions to household income we reasoned that the inverse relationship should disappear in adolescents. Because migraine runs in families we adjusted for a parental history of migraine.

AIMS

1 - To investigate the epidemiology of migraine in a large sample of adolescents representative of the U.S. population. 2 - To assess the disability and the patterns of treatment in a community sample of adolescents. 3 – To test the social causation vs. social selection hypothesis.

METHODS

A validated self-administered headache questionnaire was mailed to 120,000 households representative of the U.S. population. Migraineurs were identified according to criteria of the International Classification of Headache Disorders (ICHD-2). We calculated sex-specific prevalence estimates of migraine in adolescents derived by age, race, urban versus rural residence, household income, and region of the country. We also adjusted for family history of migraine. GLIM Poisson regression (log-linear models) was used to model sex- and age-specific prevalence by income and to derived adjusted prevalence ratios. Guidelines for preventive medication use were developed by a panel of headache experts. Criteria for consider or offer prevention were based on headache frequency and impairment.

RESULTS

Among adolescents, the one-year period prevalence of migraine was 6.3%, overall, 5.0% in boys and 7.7% in girls. Other than in 12 years old, the prevalence was higher in girls than in boys in all other ages (Figure 1).

When parental history of migraine is not taken in consideration, there was a strong, consistent inverse relationship between migraine prevalence and household income. The relationship was statistically significant in both males and females after adjusting for covariates. Adjusting for parental migraine, if at least one of the parents has migraine, the relationship between migraine prevalence and household income disappears. If neither parent has migraine, the inverse relationship remains between migraine prevalence and family income remains significantly positive. In families with an annual income lower than 22,500, the prevalence of migraine in adolescents without parental history of migraine was 5.5%; in families earning 90,000 or more, it was 2.9% (Figure 2). The adjusted prevalence was respectively 4.4% and 2.1% (Figure 3).

Most adolescents (59.3%) used only OTC as their acute migraine treatment. For prevention, 63.7% never used it, 6.3% used migraine prevention for other reasons (coincident users), 19.5% used preventive medication for migraine in the past, and just 10.6% were current users.

FIGURE 1

Prevalence of Migraine in Adolescents

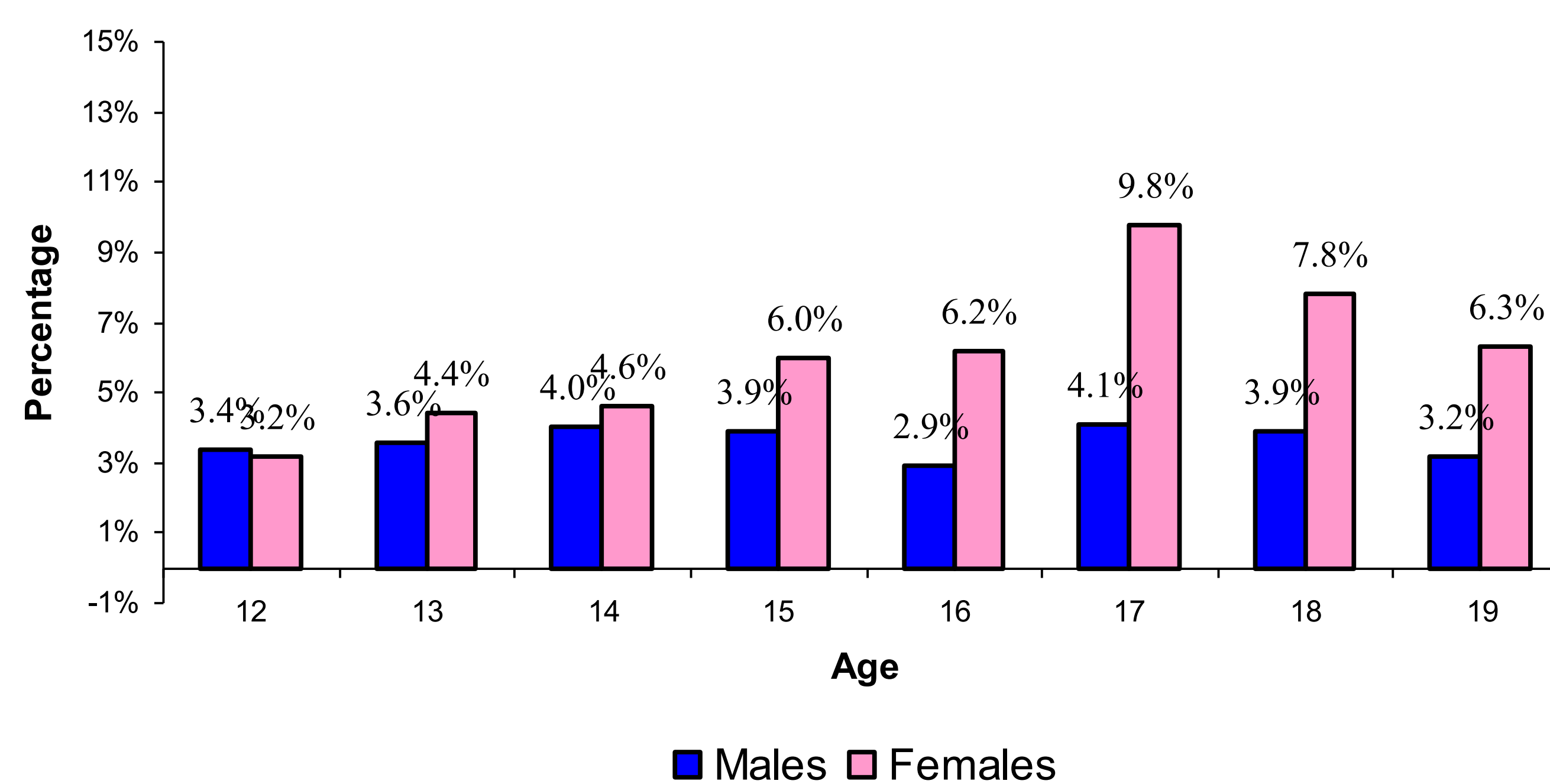


FIGURE 2

Crude Prevalence According to the SES

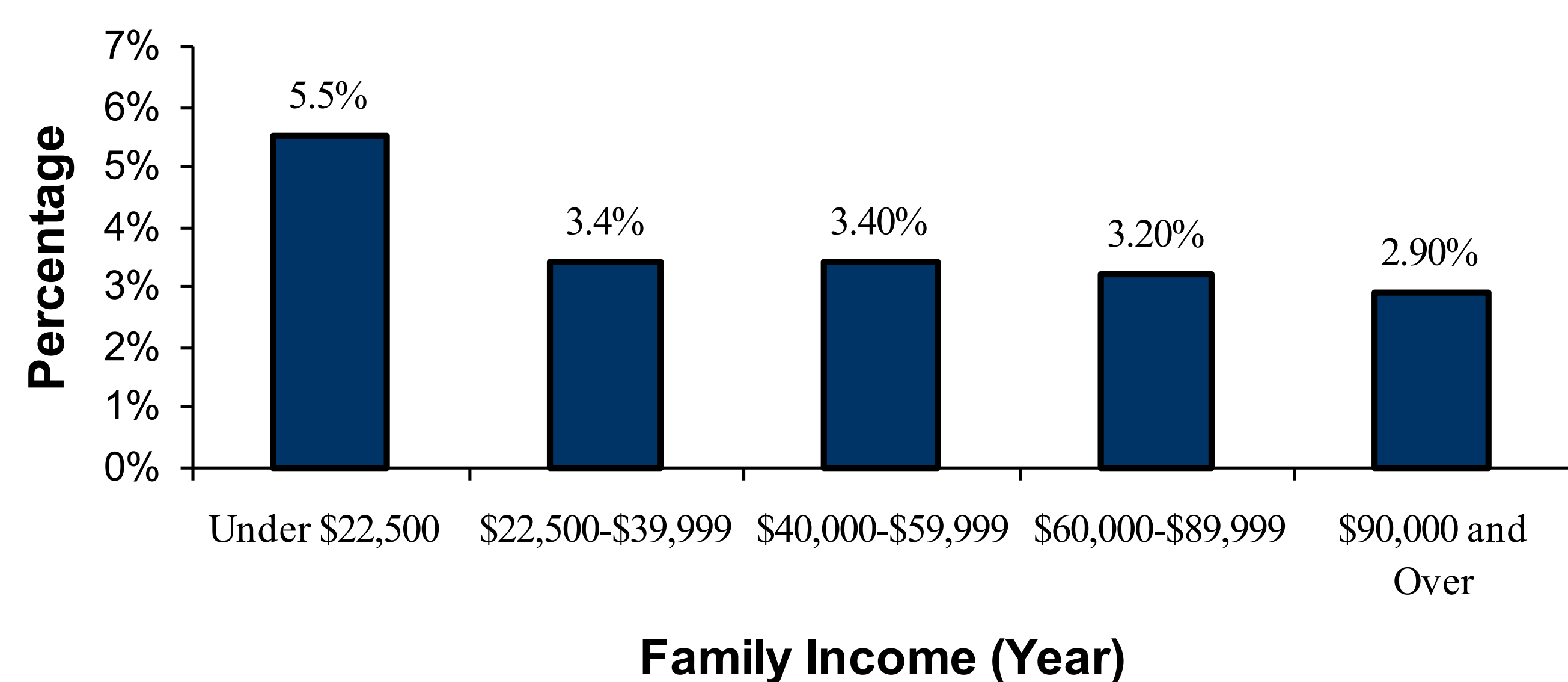
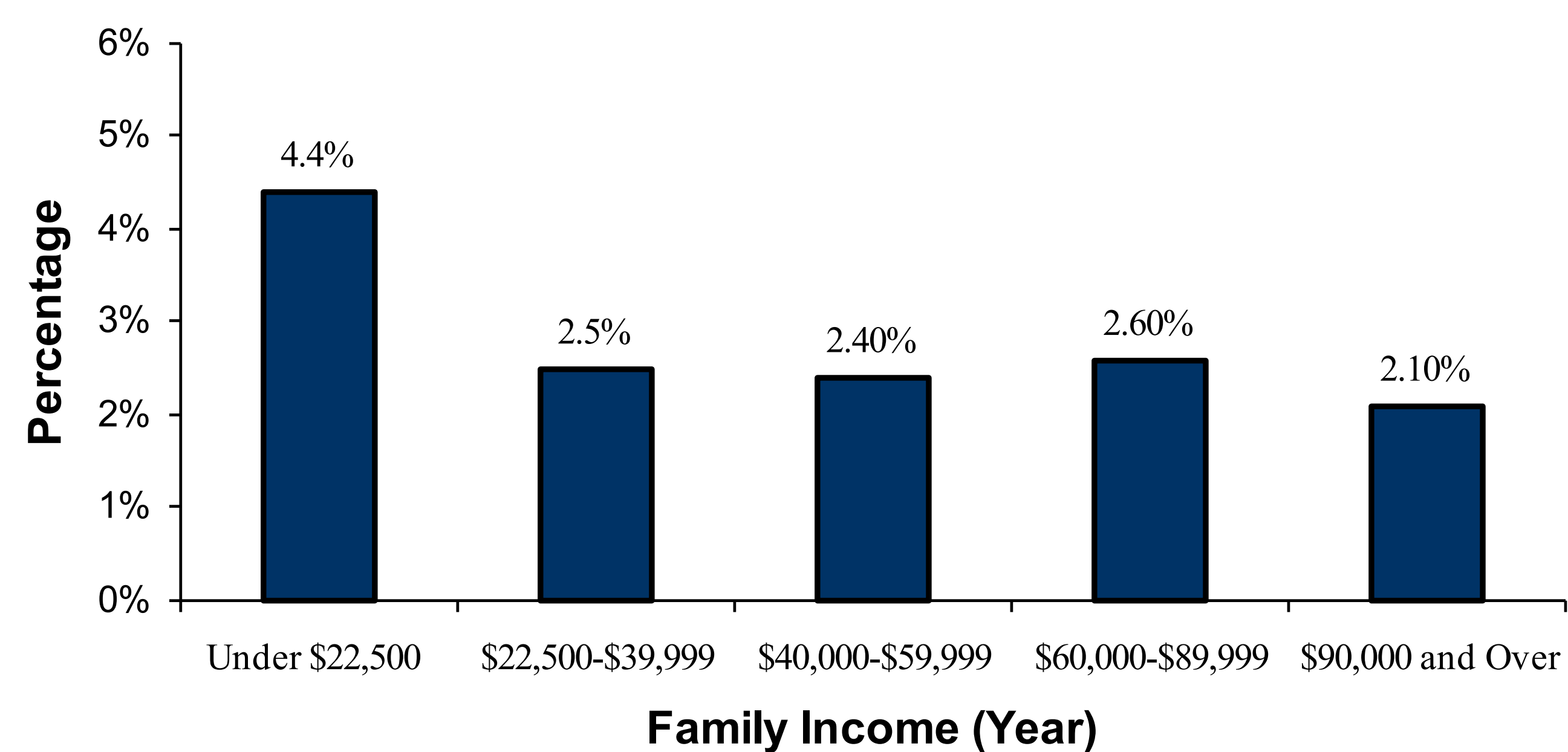


FIGURE 3

Adjusted Prevalence According to the SES



CONCLUSIONS

Migraine is common, disabling, and substantially under treated among adolescents. The inverse relationship between migraine prevalence and household income is most compatible with the social causation hypothesis. This relationship is not accounted for by parental history of migraine.