Migraine, Disability, and Prevention Need in a Community Sample of Adolescent: Results from the American Migraine Prevalence and Prevention (AMPP) Study

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INTRODUCTION
Migraine is one of the most burdensome of the primary headache disorders. In countries where migraine occurs in adulthood, the prevalence of migraine is approximately 18% in women and 6% in men. While migraine is common at all ages, the effects of age on the prevalence of migraine are dramatic. The prevalence of migraine peaks in middle age and is lower in childhood, adolescence, and in the elderly. The prevalence of adolescent migraine has been previously studied; however, the patterns of acute and preventive treatment for adolescent migraineurs in the general population have not been described. Migraine often begins in adolescence and may interfere with education; understanding unmet treatment needs in the age range is a first step toward the development of public health initiatives.

METHODS
A sample of 120,000 households (with a total of N=257,339 individuals age 12+) were selected from the US Census, 2000 1% population sample. The final sample was designed to be representative of the US population on key demographics (age and gender of household head, household income and size, census region, and population density). Each household member with severe headache was asked to provide data on headache symptoms and features, headache frequency and acute preventive medication use, use of coincident preventive treatment (surgery, blood pressure, depression medications), headache-related impairment (work/function normally, impaired to some degree, severely impaired, bed rest required) and headache-related disability based on MIDAS. Subjects were classified by their preventive medication use into: current users, coincident users (using medications for other conditions that have a preventive benefit in migraine), lapsed users (prevention use in the past), and those never using migraine prevention. Consensus guidelines to “offer” or “consider” preventive treatment for migraine were developed by an expert panel according to clinical experience and patient-reported headache frequency and impairment. Decision rules for the classification of cases based on headache frequency and impairment were reviewed with the objective of identifying operational criteria consistent with these guidelines. This yielded three groups: preventive treatment should be offered to all patients with 6+ migraine days per month; 4+ migraine days with at least some impairment or 3+ migraine days with severe impairment or required bed rest. Preventive treatment should be considered for patients with 4-6 migraine days per month with normal functioning; 2-3 migraine days with some impairment or 2 migraine days with severe impairment.

RESULTS
A total of 77,879 households (65% response) returned questionnaires. The current analysis focuses on the subset of adolescents in this sample aged 12-19. A total of 32,174 were sent surveys and 18,714 responded (58.5% response rate). Table 1 provides sample demographics. Among adolescents, the one-year period prevalence of migraine was 6.3%, overall, 5.0% in boys and 7.7% in girls. Migraine prevalence adjusted for demographics is provided in Figure 1. A total of 10.6% of the adolescents used only OTC and 22.1% used both OTC and Rx (Figure 2). Among adolescents, 6.3% coincident use* was significantly higher (p<.0001) among those with greater prevention need (Figure 2). Only 10.6% of adolescent migraineurs use migraine-specific preventive treatment.

CONCLUSIONS
One year period prevalence of migraine was found in 6.3% of the adolescent population (5.0% of males and 7.7% of females). An additional 6.3% use coincident preventive treatment (medication for another condition with known benefit in migraine prevention) and 10.6% have discontinued prior preventive treatment. Most (63.7%) have never used preventive treatment. Based on headache expert consensus guidelines, almost 1 in 3 adolescent migraine cases are candidates for preventive therapy: 20.8% should be "offered" prevention and another 10.1% should "consider" it. There is significantly more MIDAS-based disability among those groups with the greatest need for preventive therapy. For the 20.8% of adolescent migraine cases with the greatest need, less than 1 in 4 (22.5%) currently receive migraine specific preventive treatment. Among migraine cases who never used preventive treatment, 1 in 4 (24.6%) could benefit from it. Identifying migraine patients who may be candidates for preventive therapy will most likely improve headache outcomes for adolescent patients with migraine.

REFERENCES
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