

Migraine in affectively ill Mexican adolescents

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The objective of this cross-sectional study was to determine the prevalence of migraine headache among depressed Latino adolescents of Mexican American origin. This is, to the best of our knowledge, the first study of the prevalence of migraine among depressed adolescents of any ethnic/racial background. In a mental health clinic for the indigent, 132 consecutive Latino adolescents fulfilling the DSM-IV criteria for major depressive episode were compared with a sample of adolescents with other mental disorders. Logistic regression was used to test for associations and control for confounding effects. The prevalence of migraine headache among depressed adolescents was 6 times greater than that of the comparison patients (OR = 5.98, $z = 2.35$, $p = 0.019$). This finding is consistent with previously published reports involving adult samples, in which the prevalence of migraine was found to exceed that in the general population. However, contrary to what we previously found in Latino adults, the prevalence of migraine was not higher in bipolar than in unipolar adolescents.

Key words: Migraine, depression, Latino, mood disorders, comorbidity

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Migraine is the most common form of chronic, episodic headache (1). The results of a major epidemiological study revealed that the annual prevalence of migraine headaches among men and women in the United States is 6% and 15-17%, respectively (2).

Zwart et al (3) measured the 12-month prevalence of migraine among adolescent subjects living in a Norway county during the period 1995-1997. Their database included 8,255 subjects between 13 and 18 years of age. Of these, 5,487 were evaluated by a personal interview, in which they were asked whether they experienced recurring headaches in the previous 12 months. Those answering in the affirmative were classified as having tension, migraine or unclassifiable headaches. The 12-month prevalence of migraine was 7%.

Fendrich et al (4) ascertained the 3-month prevalence of migraine among subjects between the ages of 12 and 15 years in a population-based cross-sectional study in Germany. All students attending the 7th, 8th and 9th grades were eligible for inclusion. Of the 3,699 eligible students, 3,324 participated in the study. The prevalence of migraine was 6.9%.

The prevalence of migraine headache among adults with mood disorders exceeds that of adults in the general population (5-13). Mahmood et al (5) were, to the best of our knowledge, the first investigators to report that migraine is common among persons with bipolar disorder. The lifetime prevalence of migraine among bipolar patients in their sample was 30%.

In a population of Latino adults, we found that those with bipolar disorder were nearly three times more likely to suffer from migraine headache than those with major depressive

disorder (54% vs. 29%, OR=2.9, $p < 0.0001$) (14). Fasmer and Oedegaard (7) found that the lifetime prevalence of migraine headaches among bipolar and unipolar patients was, respectively, 57% and 45%, while Fasmer (6) reported that the lifetime prevalence of migraine headaches among bipolar and unipolar patients was 44% and 46%, respectively.

We recently reported that 76% of Latino adolescents meeting the criteria for major depressive disorder had at least one of four pain complaints (15). The difference in prevalence of pain complaints between these patients and psychiatric controls was dramatic.

In that previous study (15), we did not explore the possibility that the prevalence of migraine headache among depressed adolescents exceeded that of controls. We now endeavor to explore this possibility, and to investigate whether the prevalence of migraine is higher in adolescents with bipolar disorder than in those with major depressive disorder. This is, to the best of our knowledge, the first study with these objectives.

METHODS

The study was carried out at a public sector psychiatric outpatient clinic for the destitute situated in the rural expanse of Starr County, Texas, a very impoverished region of the United States resting on the Rio Grande River. The county had a population of 53,597 persons in the 2000 census. Its racial composition is 99% Latino of Mexican American origin and 1% other.



One hundred thirty-two consecutive adolescents (between 12 and 17 years of age) fulfilling the DSM-IV criteria for major depressive episode, as ascertained by the Structured Clinical Interview for DSM-IV (SCID-CV) (16), were recruited for the study. Any physical illness which could be a possible basis for headache, as ascertained by medical history and review of systems, was an exclusion criterion.

Forty-seven adolescents without major depression and without any physical illness which could be a possible basis for headache composed the control group. The diagnoses in the control group, ascertained by the SCID-CV, were adjustment disorder, attention-deficit/hyperactivity disorder or substance use disorder.

The diagnostic interview included the query "Have you been having headaches in the last week?"

Patients answering this question in the affirmative were asked explicit questions about the characteristics of the cephalalgia. Our definition of migraine included pain worse on one side of the head and simultaneous concurrent pounding, pulsating or throbbing pain at that site. This method of classifying migraine has a sensitivity of 87% and a specificity of 50% for migraine as defined by the International Headache Society (17).

Written informed consent was not required, since the data were obtained in the course of the delivery of routine clinical services.

Logistic regression was used to test associations and to control for confounding effects. P values were two-tailed, and the critical value of alpha was set at 0.05.

RESULTS

The sample of depressed adolescents included 88 patients with a DSM-IV diagnosis of major depressive disorder (29 males and 59 females, mean age 14.3 ± 1.6 years) and 44 patients with a DSM-IV diagnosis of bipolar disorder (21 males and 23 females, mean age 14.4 ± 1.6 years). The control group included 47 patients (14 males and 33 females, mean age 14.6 ± 1.5 years).

Of the depressed patients, 60.6% had tension or migraine headache, compared to 14.9% of the control group. This difference is highly significant (OR=8.14, $z=4.89$, $p<0.0001$, 95% CI = 3.33-19.94).

The prevalence of migraine headache among the patients with major depressive disorder and bipolar disorder was 26.5% and 25.0%, respectively (OR=1.04, $z=0.09$, $p=0.93$, 95% CI = 0.44-2.45). The prevalence of migraine headache in the control group was 4.3%. The patients with major depressive episode were more likely to have migraine than those in the control group (OR=5.98, $z=2.35$, $p=0.019$, 95% CI = 1.34-26.59). Those with major depressive disorder (OR=5.92, OR, $z=2.28$, $p=0.023$, 95% CI = 1.28-27.34) and those with bipolar disorder (OR=6.15, $z=2.23$, $p=0.026$, 95% CI = 1.25-30.4) were both more likely to have migraine headache than those in the control group.

DISCUSSION

This is the first study of the prevalence of migraine headache among depressed Latino adolescents of Mexican American origin. It is also, to the best of our knowledge, the first study to reveal a higher prevalence of migraine headache among depressed adolescents of any ethnic/racial background relative to a comparison group.

The focus of the study was a Latino population living in a semi-closed community. This raises questions about the generalizability of the results. However, the Latino population of Mexican American origin is the most rapidly growing segment of American society. This demographic shift dictates that health care professionals become increasingly aware of the health care attitudes, problems and needs of this population.

Our findings are consistent with results involving adult samples, indicating that the rate of migraine among persons with mood disorders substantially exceeds that of non-affectively ill individuals (5-13).

We previously reported that among adults in Starr County those with bipolar disorder are nearly three times more likely to suffer from migraine headache than those with major depressive disorder (54% vs. 29%, OR=2.9, $p<0.0001$) (14). We did not find this difference in the present population of adolescents, where the prevalence of migraine in those with major depressive disorder and those with bipolar disorder was 26.5% and 25.0%, respectively. Since an age of onset of major depression in childhood and adolescence is a strong predictor of the eventual emergence of bipolar disorder (18,19), it is possible that a significant fraction of our adolescents classified as having major depressive disorder actually have a "latent" bipolar disorder. This could explain the above discrepancy. The hypothesis could be put forward that migraine among youths with early onset major depressive disorder is a trait placing a subset of them along the bipolar spectrum.

Pain in the context of a depressive syndrome is often state-dependent. We were not able to conduct a longitudinal study in our sample of adolescents. Further studies are warranted in order to investigate the long-term course of migraine and its response to antidepressant treatment.

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