Socio-Demographic Differences Between Chronic Migraine and Episodic Migraine

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BACKGROUND

• Though chronic migraine (CM) and episodic migraine (EM) are each variants of migraine, epidemiologic and biological differences have rarely been studied in the population.
• Differences in epidemiologic profile might reflect differences in biologic risk factors.

OBJECTIVE

To characterize the sociodemographic profiles of CM and EM in a large population-based sample

METHODS

The American Migraine Prevalence and Prevention (AMPP) study is a longitudinal, prospective, population-based, mailed questionnaire survey. Respondents were identified by screening 120,000 US households to identify 24,000 individuals with severe headache who have been followed on an annual basis since 2004.

Results of the AMPP study were analyzed to assess differences in socio-demograhic data between two groups of respondents: CM with or without medication overuse (reported migraine; ≥15 days of headache per month) AND EM (reported migraine; 0-9 days of headache per month)

RESULTS

• Of 24,000 headache sufferers surveyed in 2005, 16,573 returned complete questionnaires (69.0% response rate).
• Results presented here are based on 655 CM respondents and 9,494 EM respondents.

RESULTS (continued)

• Both CM and EM occur predominantly in females (81.3% vs. 77.9%, respectively; p= 0.46).
• Compared with EM, those with CM were slightly older (p<0.05) and more likely to be African American (p<0.05).
• The majority of both CM and EM respondents were Caucasian (90.7% vs. 87.3% respectively).

Table 1: Summary of demographic differences between CM and EM

Variables (Statistical Test)		CM (N=655)	EM (N=9,494)	CM versus EM
Mean (Standard Deviation)*		47.7 (14.0)	46.4 (13.8)	MDIFF(95%CI)=1.30 (0.21,2.38); p=0.03
BMI		29.8 (8.3)	29.2 (7.9)	MDIFF(95%CI)=0.59 (-0.05,1.23); p=0.06
Gender	Female	78.6%	79.8%	OR(95%CI)=1.25 (0.95,1.65); p=0.15
	Male	21.4%	20.2%	Reference (OR= 1.0)
Race* **(CHI[2] Test[a])**	Caucasian	90.7%	87.3%	
	African-American	4.0%	7.2%	
	Asian/ Pacific Islander	0.2%	0.8%	X(DF)=14.99(5)P=0.01[a]
	Native American/ Eskimo	1.4%	0.9%	
	Other	1.4%	1.4%	

* Indicates statistical significance for between group comparisons (CM vs. EM)
[a] CHI[2] test statistic indicates whether the marginal proportions of the nominal variable are equivalent (or independent) across contrasted groups

• When compared to EM, those with CM had lower levels of education and household income and were less likely to be employed full time (p<0.05).
• Approximately 40% of both EM and CM classified themselves as having some college or technical school, and nearly 30% of CM respondents reported a household income <$22,500.
• When compared to EM, CM respondents were nearly half as likely to be employed full time (OR=0.65; <0.001) and over twice as likely to report being disabled (OR=2.10; p<0.001).

Table 2: Socioeconomic Status in CM and EM

Variables (Statistical Test)		CM (N=655)	EM (N=9,494)	CM versus EM OR (95% CI); p
Highest level of education* **N (%)** **(ordered LR[a])**	8 grades or less	14 (2.16)	109 (1.04)	
	Some HS	28 (4.33)	470(4.47)	
	HS Graduate or GED	163 (25.19)	2504 (23.82)	1.19 (1.04,1.38); p=0.02 [†]
	Some college or technical school	264 (40.80)	4052 (38.55)	
	College graduate	124 (19.17)	2181 (20.75)	
	Graduate degree	54 (8.35)	1195 (11.37)	
Household income* **N (%)** **(ordered LR[†])**	<$22,500	196 (29.92)	2622 (24.71)	
	$22,500-$39,999	140 (21.37)	2100(19.79)	
	$40,000-$59,999	106 (16.18)	1998 (18.83)	1.29 (1.12,1.48); p<0.001[†]
	$60,000-$89,999	121 (18.47)	1975 (18.62)	
	$90,000+	92 (14.05)	1914 (18.04)	
Current employment status N (%) (LR)	Employed full time*	242 (37.81)	5010 (48.15)	0.65 (0.56,0.77); p<0.001
	Employed part time	72 (11.25)	1353 (13.00)	0.85 (0.66,1.09); p=0.20
	Unemployed	48 (7.50)	752 (7.23)	1.04 (0.77,1.41); p=0.80
	Retired	95 (14.84)	1301 (12.50)	1.22 (0.97,1.53); p=0.08
	Student	20 (3.13)	398 (3.82)	0.81 (0.51,1.28); p=0.37
	Home-maker*	124 (19.38)	1663 (15.98)	1.26 (1.03,1.55); p=0.02
	Disabled*	128 (20.00)	1107 (10.64)	2.10 (1.71,2.57); p<0.001
	Volunteer	20 (3.13)	237 (2.28)	1.38 (0.87,2.20); p=0.17

* Indicates statistical significance for between group comparisons (CM vs. EM)
[†] In an ordered logistic regression, the odds ratio indicates how contrasted groups differ in probability of higher response category

CONCLUSIONS

In comparison with EM, those with CM are slightly older, more likely to be Caucasian, and more likely to come from a low socio-economic status (SES) group as measured by education or income. Those with CM were less likely to work full-time and were more than twice as likely to be disabled. These differences in epidemiologic profile may reflect factors associated with progression from EM to CM. In this cross sectional study, it is not clear if the inverse relationship with SES reflects social selection (downward drift) or social causation (factors associated with low SES that increase risk of progression).