

Preventive Therapy Use and Need in Probable Migraine: Results from the American Migraine Prevalence and Prevention (AMPP) Study:

Marcelo Bigal¹, Elizabeth Loder², Stephen Silberstein³, Michael L. Reed⁴, Richard B. Lipton¹

¹Department of Neurology, Albert Einstein College of Medicine, Bronx, NY; ²Spaulding Rehabilitation Hospital, Boston, MA; ³Jefferson Headache Center, Philadelphia, PA; ⁴Vedanta Research, Chapel Hill, NC

INTRODUCTION

A sizable group of headache sufferers with features of migraine fail to fully meet the current criteria of the International Classification of Headache Disorders (ICHD-2) for migraine with or without aura¹⁻³. Most of these subjects meet criteria for probable migraine (PM), a subtype of migraine that fulfills all criteria but one for migraine with or without aura⁴. This study estimated the prevalence of PM in the general population and assessed the need for and use of daily preventive medication among this group.

METHODS

A sample of 120,000 households (with a total of N=257,339 individuals age 12+) were selected from the TNS (formally National Family Opinion) nationwide panel. This household panel is constructed to be representative of the U.S. 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, acute and preventive medication use, use of coincident prevention (seizure, 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 MIDAS⁵.

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 consensus guidelines. This work 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 4-5 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. Table 1 provides total sample demographics and response rates.

A total of N=30,721 headache sufferers age 12+ were identified (18.9% of the sample), N=7,564 individuals met ICHD-2 criteria for PM, for a one-year period prevalence of 4.5% (3.9% in men & 5.1% in women). Probable Migraine prevalence adjusted for demographics is provided in Figure 1.

Only 7.9% of probable migraine cases used migraine specific prevention, 19.7% were coincident users, 19.6% were lapsed users and 52.8% had never used preventive medication (Figure 2). Based on expert panel guidelines, however, 17.1% of these PM subjects should be offered preventive medication and an additional 11.6% should consider using it (Table 2). About one-third (33.6%) of the "offer" prevention group reported moderate to severe headache-related disability on the MIDAS disability scale (Figure 3). Only 12.8% of the combined Offer and Consider groups are currently receiving preventive medication (Figure 4). In the subgroup of PM cases who had never used a preventive, 25.4% met guideline criteria for Offer or Consider preventive therapy (Figure 5).

Table 1. Sample characteristics and response rates for headache and migraine screening.

	Sampled Individuals (N)	% of Sample	Responding Individual (N)	Response Rate %
Total	257,339	100%	162,576	63%
Gender				
Males	124,665	48%	77,292	62%
Females	132,674	52%	85,284	64%
Age				
12-17 yrs	23,933	9.3%	13,821	58%
18-29 yrs	45,238	17.6%	22,659	50%
30-39 yrs	42,947	16.7%	22,468	52%
40-49 yrs	47,242	18.4%	28,994	61%
50-59 yrs	42,870	16.3%	29,479	70%
60+ yrs	56,109	21.8%	45,155	80%
Total Headache Cases			30,721	
Total Migraine Cases			18,968	
Total Probable Migraine Cases			7,564	

Figure 1. Age and gender-adjusted prevalence rates for probable migraine cases.

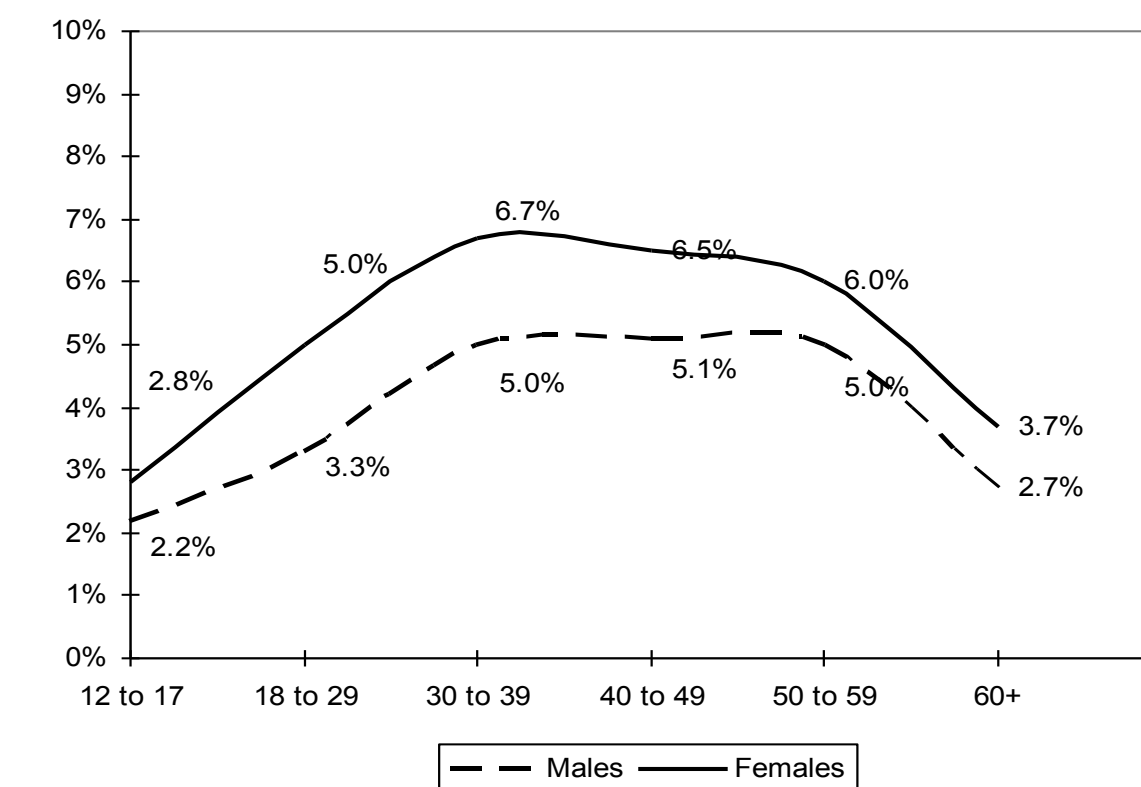


Figure 2. Current preventive medication use: only 8% of probable migraine cases report current use of migraine specific preventive therapy; 20% report past use.

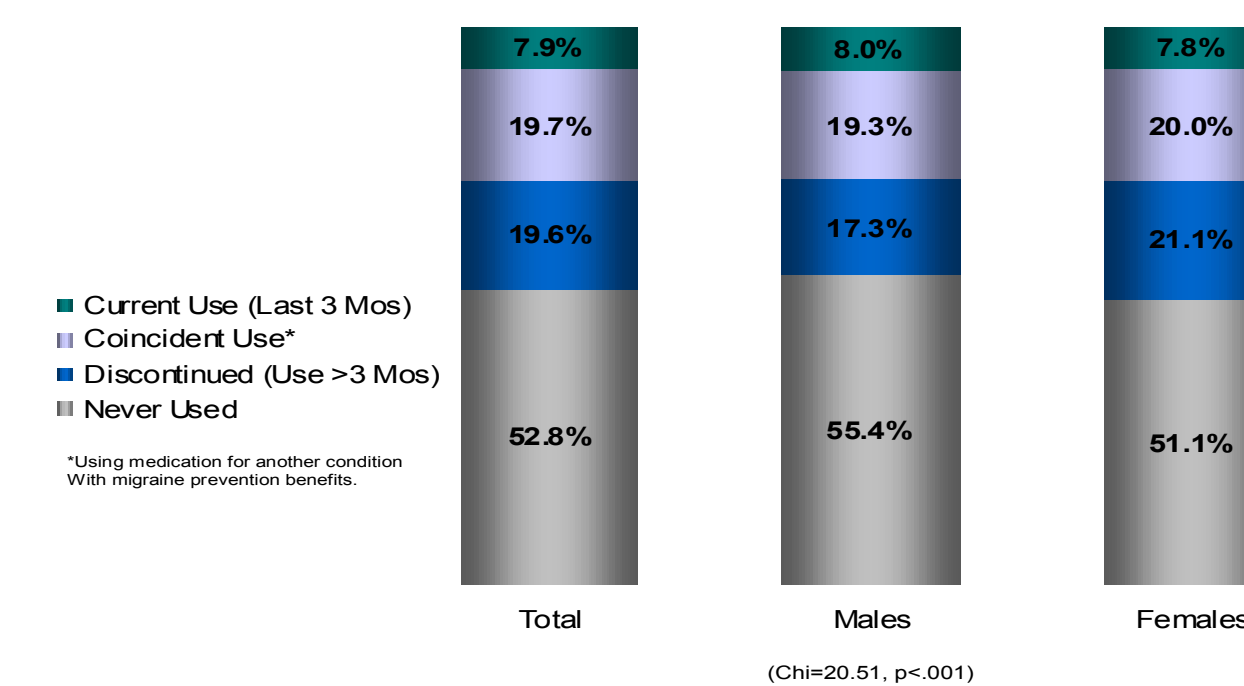


Table 2. Estimates of preventive medication need: 28.7% of PM cases could benefit from daily preventive therapy.

How are you usually affected by severe headaches?	Monthly Migraine Days (Days in Last 3 Months – based on MIDAS)						Total
	≤1	2	3	4-5	6-10	11+	
Able to Work/Function Normally	20.4%	2.3%	2.1%	1.8%	1.8%	1.3%	29.7%
Impaired to Some Degree	31.3%	4.1%	4.2%	3.6%	2.8%	2.2%	48.2%
Severe Impairment Bed Rest Required	15.2%	1.5%	1.7%	1.4%	1.2%	1.0%	22.1%
TOTAL	66.9%	7.9%	8.1%	6.8%	5.8%	4.6%	100% (N=7,299)

Offer Preventive Treatment = 17.1%
Consider Preventive Treatment = 11.6%
Not Indicated = 71.3%

Figure 3. MIDAS-based disability by prevention need: about one-third of the "offer" prevention group reports moderate to severe headache-related disability.

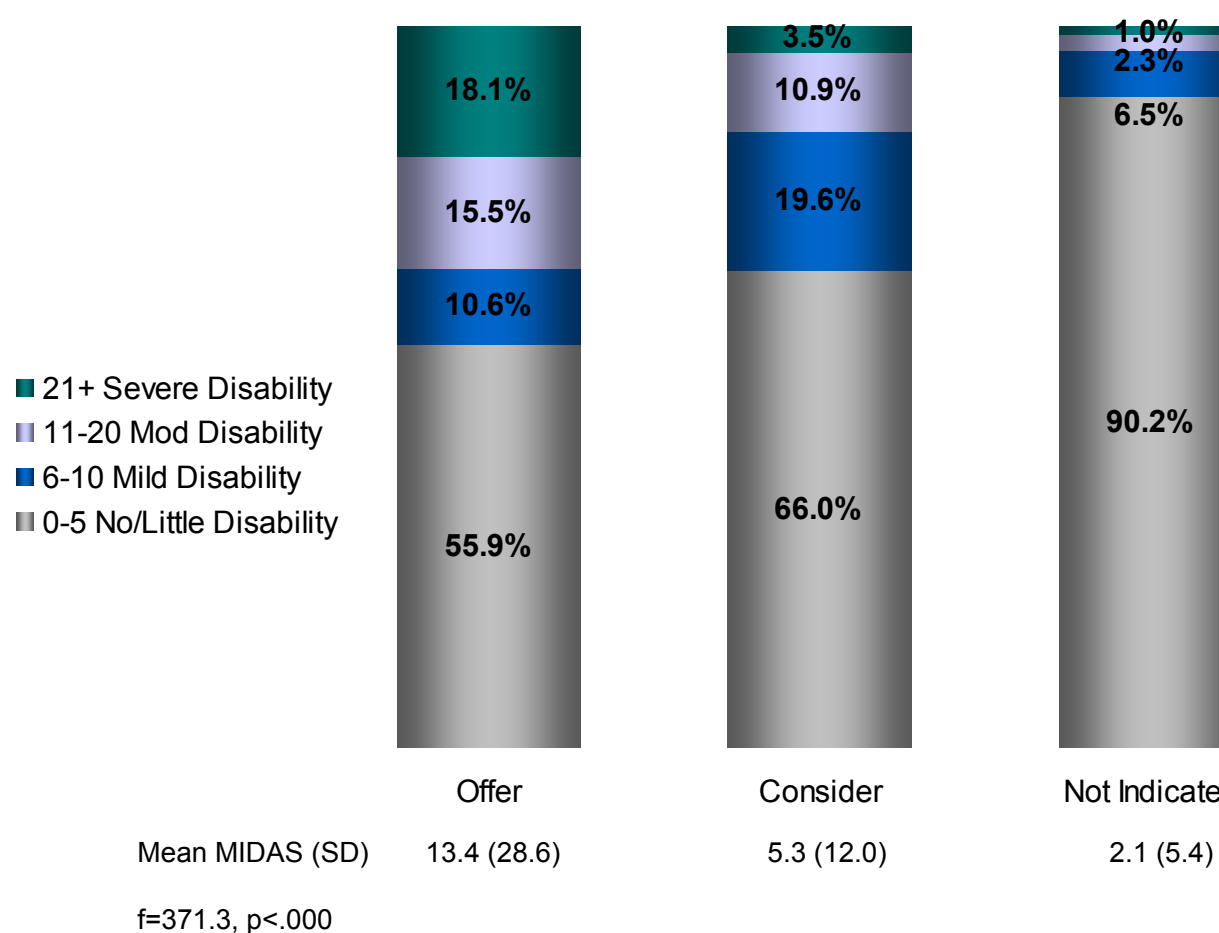


Figure 4. Preventive medication use by prevention need: only 1 in 8 (12.8%) prevention candidates are receiving it currently.

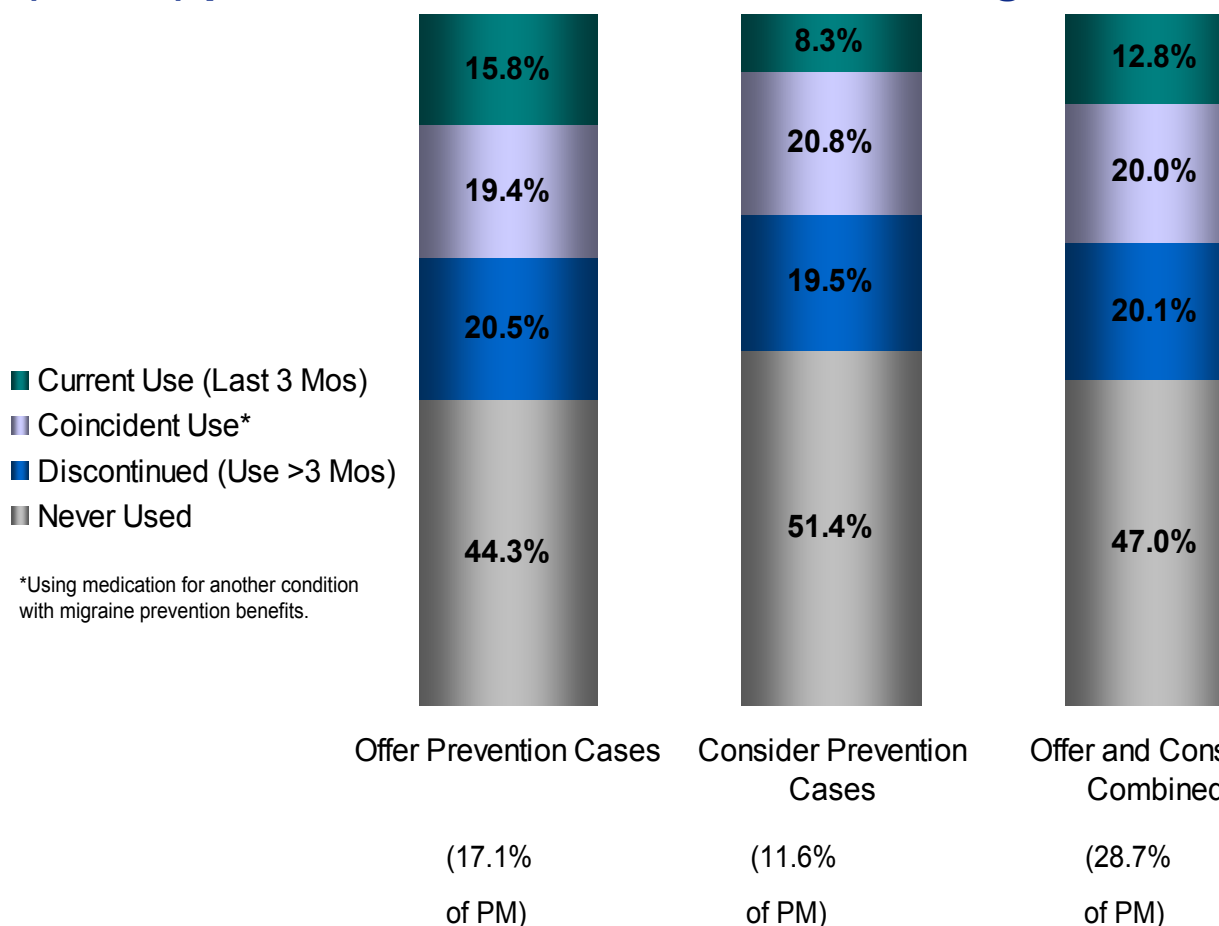
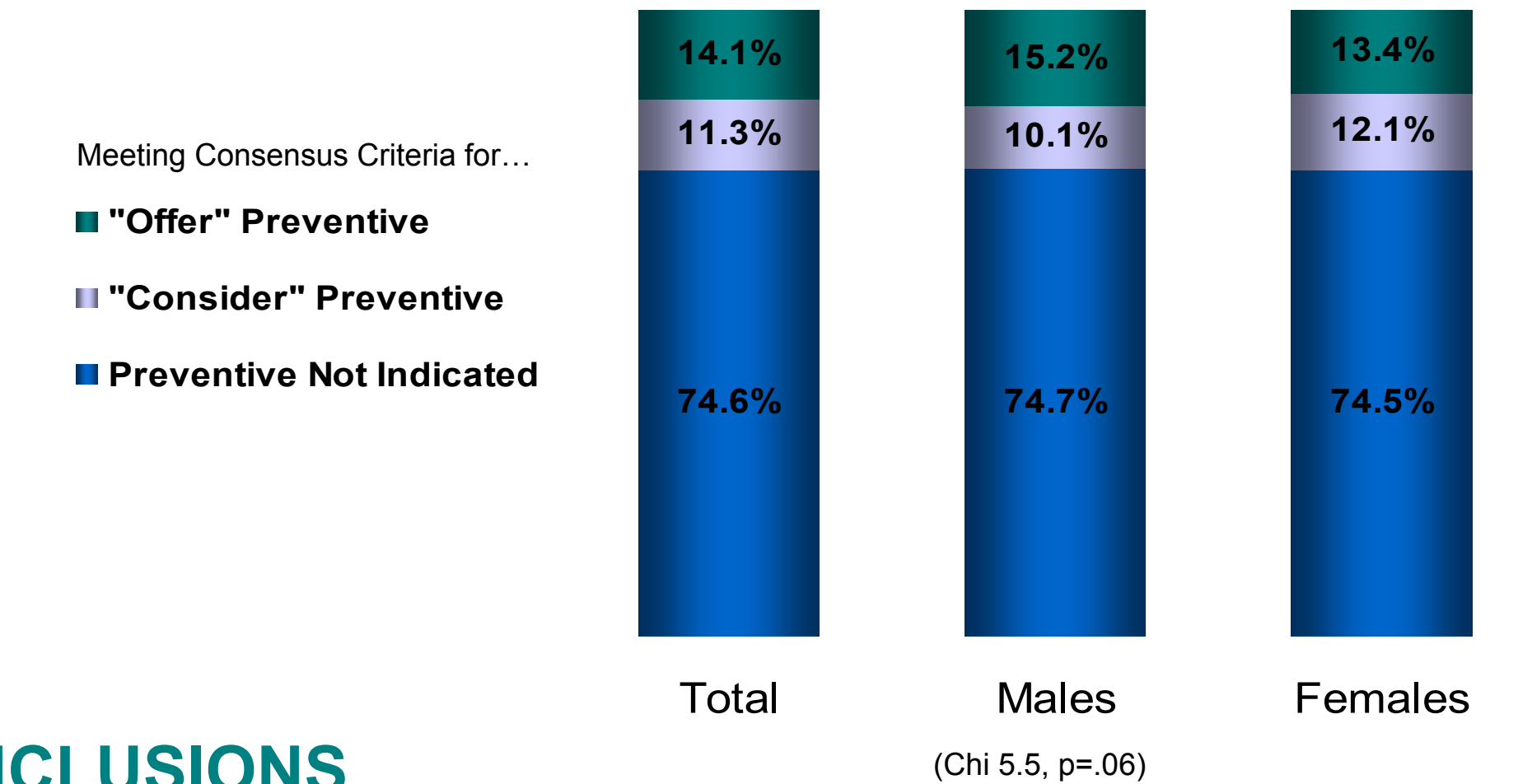


Figure 5. Preventive medication need among those who have never used preventive therapy: 1 in 4 (25.4%) could benefit from prevention.



CONCLUSIONS

- ◆ Probable migraine was found in 4.5% of the population (3.9% of males and 5.1% of females) with the highest one-year period prevalence seen in the 30-39 age group.
- ◆ Only 7.9% of those with PM use migraine-specific preventive treatment.
- ◆ An additional 19.7% use coincident preventive treatment (medication for another condition with known benefit as a migraine preventive) and 19.6% have discontinued prior preventive treatment. Most (52.8%) have never used preventive treatment.
- ◆ Males with PM are more likely than females (p<.001) to have never used preventive medication.
- ◆ Based on headache expert consensus guidelines, more than 1 in 4 PM cases are candidates for preventive therapy: 17.1% should be "offered" prevention and another 11.6% should "consider" it.
- ◆ There is significantly more MIDAS-based disability among those groups with the greatest need for prevention.
- ◆ For the 28.7% of probable migraine cases who make up the combined "offer" and "consider" prevention group, only 1 in 8 (12.8%) currently receive migraine specific preventive treatment.
- ◆ Among migraine cases who never used preventive treatment, 1 in 4 (25.4%) could benefit.
- ◆ Identifying migraine patients who may be candidates for preventive therapy will most likely improve headache outcomes for patients with migraine and probable migraine.

REFERENCES

- Russell MB, Olesen J. Migrainous disorder and its relation to migraine without aura and migraine with aura. A genetic epidemiological study. Cephalalgia. 1996;16:431-435.
- Rains JC, Penzien DB, Lipchik, GL, Ramadan NM. Diagnosis of migraine: Empirical analysis of a large clinical sample of atypical migraine (IHS 1.7) patients and proposed revision of the IHS criteria. Cephalalgia. 2001;21:584-595.
- Lipton RB, Cady R, Dodick D, Diamond M. Demographics of Migrainous Headache Sufferers in the United States: Additional Data from the American Migraine Study II (abstract). Headache 2002;42:440
- Headache Classification Subcommittee of the International Headache Society. The International Classification of Headache Disorders, ed. 2. Cephalalgia. 2004;24(suppl 1):1-15.
- Stewart WF, Lipton RB, Whyte J, Dowson A, Kolodner K, Liberman JN, Sawyer J. A international study to assess reliability of the Migraine Disability Assessment (MIDAS) Score. Neurology. 1999;53:988-994.