Examination of Unmet Treatment Needs Among Persons with Episodic Migraine: Results of the American Migraine Prevalence and Prevention Study (AMPP)

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BACKGROUND
- Despite the expanding therapeutic armamentarium, the minority of persons with migraine use migraine-specific agents as acute treatment
- In addition, satisfaction with migraine therapy is low to moderate, suggesting that at least a subset of persons with migraine have unmet treatment needs

STUDY AIMS
- To operationally define “unmet treatment needs” using conservative definitions
- To examine the prevalence of “unmet treatment needs” among persons with EM in the general US population

AMPP STUDY: DESIGN AND SAMPLING
- The American Migraine Prevalence and Prevention (AMPP) study is a longitudinal sample of persons with severe headache in the US population
- Sample was identified in a general-population screening study which mailed 162,796 individual respondents in 2004
- A random sample of 24,000 with headache entered into a longitudinal study
- In the baseline sample year (2005) there were 18,514 valid returns (77.1% return rate)
- Subsequent surveys were sent to the same sample in 2007, 2008 and 2009

CURRENT STUDY METHODS
- Examined 2000 AMPP EM sample
- Identified 5 candidate domains of unmet treatment need
- Developed a yes/no validated unmet need definition
- Contrasted unmet need definition categories on various outcomes of interest

RESULTS

Contrasting Unmet Need Groups
- Each unmet treatment need group was contrasted against those with no unmet needs on a series of univariate outcomes
- Normally distributed outcomes such as age and BMI were modeled using ANCOVA
- Count outcomes, such as headache days/month were modeled using negative binomial regression
- All other variables were binary and modeled via Logistic regression

Sociodemographic Characteristics

<table>
<thead>
<tr>
<th>Number of Unmet Treatment Needs</th>
<th>No unmet needs</th>
<th>1 unmet need</th>
<th>2 or more unmet needs</th>
<th>Odds ratio/ Mean Differences (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>2,675 (80.65)</td>
<td>1,198 (38.4%)</td>
<td>343 (42.50)</td>
<td>0.93 (0.76,1.13)</td>
</tr>
<tr>
<td>Male</td>
<td>642 (19.35)</td>
<td>831 (26.6%)</td>
<td>521 (67.5%)</td>
<td>1.09 (0.92,1.28)</td>
</tr>
<tr>
<td>Age (y)</td>
<td>51.0 (12.36)</td>
<td>52.1 (12.46)</td>
<td>51.0 (12.36)</td>
<td>0.97 (0.91,1.04)</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>29.4 (7.55)</td>
<td>29.4 (7.55)</td>
<td>29.4 (7.55)</td>
<td>0.93 (0.85,1.02)</td>
</tr>
<tr>
<td>Married</td>
<td>515 (15.53)</td>
<td>133 (16.48)</td>
<td>147 (18.22)</td>
<td>1.09 (0.92,1.28)</td>
</tr>
<tr>
<td>Headache-related burden</td>
<td>1.9 (2.09)</td>
<td>1.9 (2.09)</td>
<td>1.9 (2.09)</td>
<td>1.72 (1.62,1.82)</td>
</tr>
</tbody>
</table>
| *=significant at p<0.05, CI=confidence interval; two tailed test for NCHS male/male, for INCHS mean differences (95%CI)

Medication Use

<table>
<thead>
<tr>
<th>Number of Unmet Treatment Needs</th>
<th>No medication</th>
<th>1 medication</th>
<th>2 or more medications</th>
<th>Odds ratio/ Mean Differences (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSAID use in preceding 3 months</td>
<td>1,305 (40.85)</td>
<td>634 (22.32)</td>
<td>432 (17.35)</td>
<td>1.07 (0.97,1.25)</td>
</tr>
<tr>
<td>Triptan use in preceding 3 months</td>
<td>272 (8.21)</td>
<td>172 (11.72)</td>
<td>133 (16.48)</td>
<td>1.49 (1.22,1.82)</td>
</tr>
<tr>
<td>Current preventive medication use</td>
<td>332 (10.16)</td>
<td>245 (16.70)</td>
<td>422 (50.66)</td>
<td>1.78 (1.59,1.98)</td>
</tr>
</tbody>
</table>
| *=significant at p<0.05, CI=confidence interval

Presence of Psychiatric Comorbidities

<table>
<thead>
<tr>
<th>Number of Unmet Treatment Needs</th>
<th>No comorbidity</th>
<th>1 comorbidity</th>
<th>2 or more comorbidities</th>
<th>Odds ratio/ Mean Differences (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>154 (47.04)</td>
<td>158 (47.04)</td>
<td>170 (51.07)</td>
<td>1.24 (1.07,1.43)</td>
</tr>
<tr>
<td>Depression</td>
<td>320 (9.55)</td>
<td>329 (10.24)</td>
<td>331 (10.24)</td>
<td>1.27 (1.08,1.50)</td>
</tr>
</tbody>
</table>

*significant at p<0.05, CI=confidence interval

CONCLUSIONS
- We defined 5 indicators of “unmet treatment need” in this US population sample of persons with EM.
- 4 of the 5 areas of unmet need were endorsed by ≥10% of the sample.
- Headache-related disability, overuse or dependence on opioids and barbiturates, and dissatisfaction with current medications for headache were the most common areas of unmet need.
- Of 5,591 survey respondents with EM, 40.6% had at least one unmet treatment need.
- Compared with respondents with no unmet needs, those with ≥1 more were likely to:
  - Meet criteria for depression and/or anxiety
  - Have more headache days per month
  - Be currently using triptans and preventative medications
- These results demonstrate that unmet needs exist among persons with EM in the population despite the use of currently available therapies.

Disclosures

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