The economic burden of fibromyalgia in Japan

Nobumitsu Etoh, Lulü K. Lee, PhD, Patrick Mlavac, MPH, Marco DiBonaventura, PhD, Joseph C. Cappelleri, PhD, MPH, MS, and Alessa Sadolsky, PhD

*Pfizer Japan Inc, Tokyo, Japan; Health Outcomes Practice, Kantar Health, Foster City, CA; Pfizer Inc, New York, NY; Kantar Health, New York, NY; Pfizer Inc, Bosten, CT

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The objective of this study was to evaluate the economic burden of fibromyalgia in Japan. The study found that people with fibromyalgia incurred higher indirect costs and direct costs than those without fibromyalgia. The higher indirect costs were mainly due to increased absenteeism, presenteeism, and activity impairment. The study also found that people with fibromyalgia had a higher risk of hospitalization and ER visits. The results of this study highlight the need for effective treatments and interventions to reduce the economic burden of fibromyalgia in Japan.

**Background**

- The prevalence of fibromyalgia in Japan in 2011 was estimated to be 2.1% among adults (aged ≥18), with the highest prevalence among women.
- In studies conducted in the US, fibromyalgia was associated with greater work productivity loss, higher healthcare resource utilization, and higher indirect and direct costs.
- There is less research investigating the economic burden of fibromyalgia in Japan. Most studies, to date, have been conducted in the US, and it is unclear whether findings generalize to Japanese adults with fibromyalgia.

**Objectives**

- To examine the impact of fibromyalgia on work productivity and activity impairment, healthcare resource use, and associated costs in Japanese adults.

**Methods**

- Steady Study & Data Source
  - Retrospective, cross-sectional database analysis using 2011-2012 data from the Japan National Health and Nutrition Survey (JNHNHS) database, with autoregressive integrated moving average (ARIMA) time series analysis.

- Sample
  - All respondents (n=3,074) who met AT is included for the primary analysis and 90% for secondary analysis.

- Statistical Analysis
  - A working algorithm was used to match respondents who self-reported a diagnosis of fibromyalgia with those without fibromyalgia.
  - A one-way analysis of variance (continuous variables) or chi-square test (categorical variables) was used to compare demographic characteristics and health outcomes between those with fibromyalgia and those without fibromyalgia (matched controls).

**Results**

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Matched Controls</th>
<th>Matched Fibromyalgia</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Age 18-24</td>
<td>13.7%</td>
<td>15.8%</td>
</tr>
<tr>
<td>% Age 25-39</td>
<td>36.7%</td>
<td>31.3%</td>
</tr>
<tr>
<td>% Age 40-59</td>
<td>36.2%</td>
<td>31.3%</td>
</tr>
<tr>
<td>% Age 60+</td>
<td>13.3%</td>
<td>17.8%</td>
</tr>
<tr>
<td>% Female</td>
<td>61.5%</td>
<td>67.0%</td>
</tr>
<tr>
<td>% Married</td>
<td>58.1%</td>
<td>42.3%</td>
</tr>
<tr>
<td>% With high school education</td>
<td>54.2%</td>
<td>37.7%</td>
</tr>
<tr>
<td>% With college education</td>
<td>27.7%</td>
<td>52.3%</td>
</tr>
<tr>
<td>% Employed</td>
<td>49.7%</td>
<td>39.5%</td>
</tr>
<tr>
<td>% With health insurance</td>
<td>79.7%</td>
<td>78.6%</td>
</tr>
</tbody>
</table>

**Limitations**

- Outcomes were self-reported and/or clinically determined; therefore, the study results may be limited due to recall bias.
- Study findings may not be generalizable to the Japanese adult population.
- The study was conducted within a single four-year period, and therefore, may not reflect longer-term changes in the burden of fibromyalgia.
- The study may have been more likely to participate in the study as a function of greater access to the required healthcare services.

**Conclusions**

- Compared with Japanese adults without fibromyalgia, those with fibromyalgia had greater work productivity loss, higher healthcare resource use, and associated costs in Japan.
- Those with fibromyalgia were twice as likely to report substantial work productivity loss, even without work absences.
- Those with fibromyalgia experienced nearly 10 times as much absenteeism, twice as much presenteeism, and twice as much overall work impairment.
- Activity impairment was also twice as high among respondents with fibromyalgia, compared with those without fibromyalgia.

**References**