The Association Between Worker Productivity and Quality of Life in GERD
Bonnie B. Dean, PhD1; Joseph A. Crawley, MS2; Colleen M. Schmitt, MD3; Joshua J. Ofman, MD, MSHS1,4
1Zynx Health, Inc., Los Angeles, CA, USA, 2AstraZeneca LP, Wayne, PA, USA; 3Southeastern Clinical Research, Chattanooga, TN, USA; 4Departments of Medicine and Health Services Research, Cedars-Sinai Medical Center, Los Angeles, CA, USA

CONCLUSIONS
- Decreased quality of life due to GERD was strongly associated with reduced worker productivity.
- This observed association helps to validate self-reported measures of impaired worker productivity associated with GERD.
- Improving symptoms and quality of life of employees with GERD may reduce the overall costs to employers related to reduced productivity.

BACKGROUND
- Symptoms of gastroesophageal reflux disease (GERD) occur in approximately 14 to 20% of the population on at least a weekly basis.1,2,3
- These symptoms can result in increased health care costs and significantly impaired health-related quality of life (QOL).4
- Symptoms may result in a large burden on employers, as GERD affects people in their productive years, thus impacting work productivity and increasing absenteeism.

OBJECTIVE
- To examine the relationship between reductions in disease-specific QOL, and the impact of GERD symptoms on worker productivity and absenteeism in a cohort of employed GERD sufferers.

METHODS

Data Source:
- A database of >600,000 households representative of the US population maintained by a national survey research firm.
- A random sample from the database who identified themselves as chronic heartburn sufferers was surveyed then contacted by telephone to ascertain current employment status, work productivity, and QOL (n=9,128).

Patient Sample:
- Currently employed patients reporting chronic heartburn and using prescription strength medication.

Survey Instruments:
- Work Productivity and Impairment Questionnaire for Patients with Symptoms of Gastroesophageal Reflux Disease (WPAI-GERD), a validated instrument for self-reported absenteeism and productivity.
- Quality of Life in Reflux and Dyspepsia (QOLRAD), a validated instrument for measuring disease-specific QOL.

Data Analysis:
- Individuals were categorized into those with and without reduced work productivity using the WPAI-GERD.
- QOLRAD scores ranged from 1 (low) to 7 (high) and provided computation of a total score and 5 domain scores.
- QOLRAD scores were compared between workers with and without lost work productivity.
- The presence of reduced work productivity was explored across varying levels of QOL.

RESULTS
- 1,003 currently employed individuals with GERD symptoms were surveyed.
- 33% reported reductions in work-related productivity due to GERD symptoms.
- Individuals with reduced work productivity were younger than those without reduced work productivity (mean age 48.5 years vs. 51.2 years; P<0.001) but were similar in gender and income.
- There was an association between quality of life and worker productivity (Table).

<table>
<thead>
<tr>
<th>QOLRAD Measure</th>
<th>No Reduced Productivity</th>
<th>Reduced Productivity</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total QOLRAD</td>
<td>6.33</td>
<td>5.26</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Emotional distress</td>
<td>6.47</td>
<td>5.37</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Sleep disturbance</td>
<td>6.38</td>
<td>5.34</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Food and drink problems</td>
<td>5.89</td>
<td>4.64</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Physical or social function</td>
<td>6.74</td>
<td>5.96</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Vitality</td>
<td>6.16</td>
<td>4.99</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

- Respondents with reduced work productivity experienced significantly lower QOLRAD scores compared to those without reduced productivity (P<0.001).
- QOL reductions were seen in the total score as well as each of the 5 domains (P<0.001).
- When QOLRAD scores were categorized into groups with increasing QOL scores, the association between QOL and work productivity persisted.

REFERENCES