The impact of gastroesophageal reflux disease on work productivity: a systematic review

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Methods

Studied quantifying health-related work productivity loss in individuals with GERD were identified using a systematic literature search of PubMed (1 January 1986 to 15 October 2004) using the following terms: (gastroesophageal reflux or heartburn) and [productivity or work or absenteeism or presenteeism]. Additional references were identified from bibliographies.

The inclusion criteria was the quantification of health-related reductions in work productivity in individuals with GERD.

Exclusion criteria were changes in productivity in non-work settings only and studies that did not quantify reductions in work productivity in terms of time lost from work.

Data on the work productivity impairment in GERD patients were collected from the literature. Authors were approached to provide unpublished data quantifying work productivity losses in terms of hours or as a proportion of total working time where these data were not documented.

Overall work productivity loss was also calculated (absenteeism and presenteeism) and expressed both as total number of work hours lost and as a percentage of the total employed time. The results of these studies are presented in Table 1.1,3

Overall productivity losses were converted into a monetary cost using the human capital method,5 by applying the average hourly labour cost for US in September 2004 of $25.36, which consisted of wages and salaries worth $17.96 and benefits worth $7.40.3

Conclusions

Gastroesophageal reflux disease (GERD) is a chronic, potentially debilitating condition characterized by frequent and persistent heartburn and acid regurgitation.1

The prevalence of GERD, as defined by at least weekly symptoms of heartburn and/or regurgitation, is 10–20% in Western countries.2

Gastroesophageal reflux disease (GERD) causes work productivity loss through two main mechanisms: absence from work (absenteeism) and reduced productivity while at work (presenteeism).

The objective of this study was to evaluate the effects of GERD on work productivity by evaluating work absenteeism and presenteeism through a systematic review and analysis of the published literature.

The following questions ask about the effect of your reflux symptoms on your ability to work and perform daily activities. We use the term reflux symptoms to mean heartburn or acid regurgitation.

Q1: Are you currently employed (working for pay)?
Q2: During the past 7 days, how many hours did you miss from work because of problems associated with your reflux symptoms?
Q3: During the past 7 days, how many hours did you miss from work because of any other reason, such as vacation, holidays, time off to participate in this study?
Q4: During the past 7 days, how many hours did you actually work?
Q5: During the past 7 days, how much did your reflux symptoms affect your productivity while you were working?
Q6: During the past 7 days, how much did your reflux symptoms affect your productivity while doing your daily activities, other than at a job?

Reference Country Population Age years Definition Method of Mean presenteeism Mean absenteeism Overall mean productivity loss

<table>
<thead>
<tr>
<th>Country</th>
<th>Study</th>
<th>Method</th>
<th>Mean presenteeism</th>
<th>Mean absenteeism</th>
<th>Overall mean productivity loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>Dean et al.</td>
<td>WPAI-GERD</td>
<td>6.2%</td>
<td>0.3%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Canada</td>
<td>Wahlqvist et al.</td>
<td>WPAI-GERD</td>
<td>6.2%</td>
<td>0.3%</td>
<td>6.5%</td>
</tr>
</tbody>
</table>

Overall productivity losses in individuals with GERD ranged from 6% to 39%, and were primarily due to presenteeism (8%–40%) rather than absenteeism (<1%–6%). Work productivity impairment correlated with symptom severity, and was greatest in patients experiencing sleep disturbance due to GERD symptoms and lowest in GERD patients taking prescription medication.

The burden of GERD on work productivity is substantial.39%

Acknowledgements

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References


Table 1. Studies of work productivity in GERD.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Country</th>
<th>Population</th>
<th>Age (years)</th>
<th>Definition of GERD</th>
<th>Method of Data Collection</th>
<th>Mean presenteeism</th>
<th>Mean absenteeism</th>
<th>Overall mean productivity loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean et al.</td>
<td>USA</td>
<td>190 employed patients with acid reflux disease (176 with GERD, 14 without GERD)</td>
<td>45</td>
<td>Acid reflux disease questionnaire (self-completed)</td>
<td>WPAI for GERD</td>
<td>15.8%</td>
<td>6.2%</td>
<td>22.0%</td>
</tr>
<tr>
<td>Wahlqvist et al.</td>
<td>Canada</td>
<td>153 employed patients recruited into GERD study</td>
<td>49.7</td>
<td>Self-reported history of GERD</td>
<td>WPAI-GERD</td>
<td>15.1%</td>
<td>6.2%</td>
<td>21.3%</td>
</tr>
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Q, question number. *Responses in a value between 0 and 100% reduced productivity.

Figure 1. Key elements of the Work Productivity and Activity Impairment questionnaire for gastroesophageal reflux disease (WPAI-GERD).

Figure 2. Percentage total reduced work productivity for GERD and other diseases (adapted from Dean et al., 2003).10


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