Economic Burden of Patients with GERD Showing both Day-Time and Night-Time Heartburn Symptoms

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Introduction

• Gastro-esophageal reflux disease (GERD) is a prevalent chronic condition where reflux of stomach contents into the esophagus causes inflammation of the esophageal lining and complications such as heartburn, acid regurgitation, and dysphagia.

• The National Health and Wellness Survey (NHWS) is a large, ongoing annual self-administered Internet survey that offers a large and diverse sample of U.S. adults (18 years and older), who are identified through a web-based consumer panel.

• The NHWS includes a broad range of health-related topics and is validated using the U.S. Census. The NHWS is broadly representative of the U.S. population, the GERD subsample examined was significant and valid as controls.

• The results suggest that better disease management of patients with diurnal and nocturnal GERD symptoms may be warranted. Given the high prevalence and economic burden, improved treatments for GERD should be investigated for significant clinical improvement in daily activities.

Discussion

• Unlike previous studies, the present study was able to explore the difference in economic outcomes associated with variations in the timing of GERD symptoms.

• A high prevalence (53.2%) of patients with GERD reported experiencing both diurnal and nocturnal symptoms.

• Even after accounting for demographic and health history confounders, a significant economic burden was observed for those with nocturnal and diurnal symptoms. This result is significant as $10,000 per patient per year, was particularly strong as it was significantly higher than all other GERD groups as well.

Methods

• Sample and procedure: Data were obtained from the 2009 (N = 75,000) wave of the National Health and Wellness Survey. NHWS is an annual, cross-sectional, self-administered Internet survey given to a sample of adults (18 years and older) who were identified through a web-based consumer panel.

• A stratified random sample procedure was implemented for NHWS so that the final sample mimics the demographic composition of the adult US population. Comparisons between the NHWS sample, the US census, and other national surveys have been made elsewhere.

• All participants (N = 75,000) were included for analysis.

• GERD symptom groups: The independent variable of interest was a five-level mutually exclusive categorical variable based on when patients reported they experienced symptoms of GERD: diurnal-only (only during the day), nocturnal-only (only at night), and both diurnal and nocturnal (both day and night). Subjects who did not report being diagnosed with GERD were considered to be in the control group.

• Demographics: Age, race/ethnicity, marital status, education, income, employment status, and health insurance status.

• Healthcare resource utilization: All participants (N = 75,000) were included for analysis.

• To determine the economic burden of different GERD groups, generalized linear models (GLMs) were conducted, specifying a negative binomial distribution. Covariates included the demographic and health history variables described above.

• Indirect costs were calculated by for each respondent by using median weekly income figures obtained through the Bureau of Labor Statistics (BLS).

• For all direct costs, the total number of emergency room (ER) visits, physician visits, and hospitalizations required were multiplied by the relevant cost, which is found in the literature.

• These figures were then multiplied by 2 to obtain annual estimates and then summed to arrive at total direct costs.

• The number of times hospitalized was multiplied by the median weekly income ($0) for the median weekday weeks per year.

• The number of hours missed was multiplied by the median weekly income ($0) for the median weekday weeks per year.

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• Table 1. Demographics and health history information by GERD symptom patient groups

References


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