

Epidemiology of Gastroesophageal Reflux Disease

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KEYWORDS

- Prevalence • Incidence • Risk factors • Esophageal strictures
- Esophageal neoplasms • Cost

KEY POINTS

- Frequent GERD symptoms are encountered in 20% of North Americans.
- The prevalence of GERD symptoms rose, and then plateaued in the mid-1990s.
- GERD incurs the highest annual direct costs of all digestive diseases in the United States.
- Pharmaceutical cost is responsible for most of the direct cost of GERD management.
- Risk factors for GERD include obesity, poor diet, lack of leisure physical activity, consumption of tobacco and alcohol, and respiratory disease.

INTRODUCTION

Gastroesophageal reflux disease (GERD) is a condition that develops when the reflux of gastric contents causes troublesome symptoms or complications.¹ GERD is responsible for some of the most common symptoms leading to presentation for medical care. The prevalence of GERD symptoms and the incidence of some of its complications have risen strikingly over the last few decades, leading to substantial economic impact. There are several potential explanations for these rising trends.

TRENDS IN THE PREVALENCE OF GERD AND INCIDENCE OF ITS COMPLICATIONS

Symptoms of GERD seem to be more common now than 25 years ago. In systematic reviews of population-based studies, El-Serag and colleagues^{2,3} found that the prevalence of at least weekly symptoms of GERD rose approximately 50% until 1995, and that the prevalence has remained relatively constant since then (**Fig. 1**). The weighted-mean prevalence of at least weekly GERD symptoms is greatest in North America

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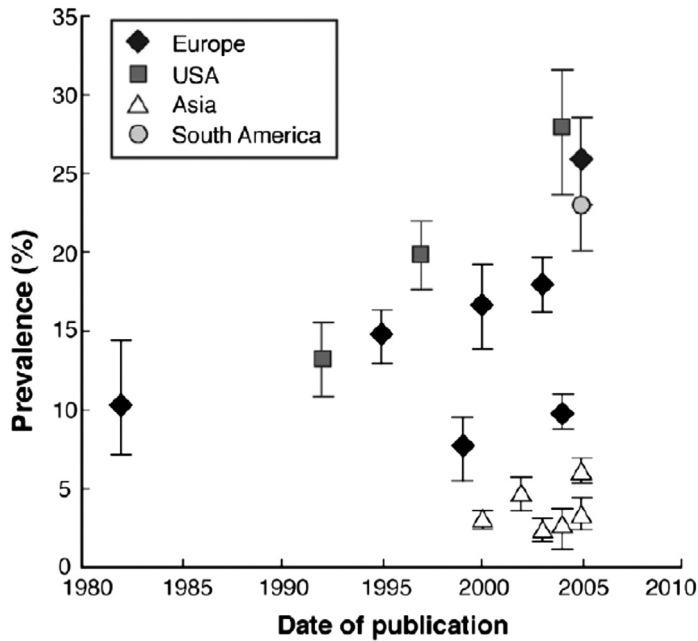


Fig. 1. Prevalence of at least weekly heartburn and/or acid regurgitation, or heartburn, with regard to the publication date of the 17 studies included in the Poisson regression analysis. Studies are categorized by geographic region (continent). (From El-Serag HB. Time trends of gastroesophageal reflux disease: a systematic review. Clin Gastroenterol Hepatol 2007;5:21; with permission.)

(19.8%), lowest in East Asia (5.2%), and intermediate in Europe and the Middle East (15.2% and 14.4%, respectively) (Fig. 2).³ The rate of increase in the prevalence of symptoms seems to be similar across all geographic regions studied.³

The source studies for that systematic review were often limited because they did not account for the use of acid-reducing medications, which would be expected to mask GERD symptoms; because the use of such medications has increased, the true prevalence of GERD (including treated and untreated) may be greater than the estimates previously mentioned. In addition, the estimates were based primarily on studies of separate samples of populations obtained at different time points. One exception is the HUNT study, which administered surveys longitudinally to the same population over time; residents of a Norwegian county answered the questions between 1995 and 1997, and the same questions again between 2006 and 2009.⁴ The prevalence of at least weekly GERD symptoms increased from 12% to 17% during that time period. GERD symptoms became more common in men and women, and in all age groups.

The incidence of complications of GERD also seems to have risen, but may have plateaued or even decreased since the mid-1990s. The proportion of hospitalizations in the US Veterans Affairs health care system with a primary or secondary discharge diagnosis of GERD increased fourfold between 1970 and 1996.⁵ Mortality directly related to GERD is very rare, but analysis of US death certificates demonstrated an increase from 1 death per 1 million individuals per year to 2.1 per 1 million between 1979 and 1992.⁵ In two community hospitals, the incidence of new esophageal strictures increased from 1986 to 1993, then decreased from 1994 to 2001, coinciding with

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