

# Abstract

## Introduction

Gastroesophageal reflux disease (GERD), although commonly found in Sri Lanka, has not yet been fully studied at a national level. This study was conducted to improve knowledge regarding GERD and its risk factors in Sri Lanka and provide baseline data for developing Sri Lankan guidelines on diagnosis and treatment.

## Methods

The study was conducted in three phases. Phase 1 is a cross-sectional, community-based epidemiological study to assess the island-wide prevalence of GERD and associated factors. A total of 1200 individuals aged 18–70 years were recruited from all 25 districts of the country using stratified random sampling. An interviewer-administered, country-validated questionnaire was used to assess the GERD prevalence and associated factors. Weight, height, waist, and hip circumference were measured.

Phase 2 was a hospital-based prospective study of 209 patients attending the gastrointestinal clinics and endoscopy units of the National Hospital of Sri Lanka with complaints of GERD symptoms. Their information was obtained using the same interviewer-administered questionnaire used in Phase 1 with additional hospital reports. Follow-up questioning was done at 6 months and 1 year. During phase 3, a hospital-based prospective study was conducted to assess the value of gastrointestinal physiology investigations, namely esophageal manometry and 24-hour pH impedance testing, in 46 treatment-resistant GERD patients.

## Results

Of the normal population, 25.3% suffer from heartburn or regurgitation at least once a week. At the same time, 38.4% were using medication for the symptoms while 19.8% were on proton pump inhibitors.

Of the patients with GERD symptoms who were referred for treatment to a specialized GI unit, 95% have undergone endoscopy. Of them, erosive GERD was detected in 33%. The rest of the patients were left without a definitive diagnosis due to the very limited number of patients undergoing MII-pH (22%). Meanwhile, 99% of patients were offered anti-reflux medication, though the follow-up management of them was not adequate, leading to ad hoc improper use of medications later. Treatment-resistant GERD was estimated at 15%. Of the patients who did undergo MII-pH, a diagnosis of GERD was obtained for 28.3%, while conclusive evidence of reflux hypersensitivity and functional heartburn was obtained for 17.8% and 13.3%, respectively. Newer metrics, such as mean nocturnal baseline impedance, significantly ( $p < 0.001$ ) impacted identifying patients with GERD. Using the results of all three phases of the study, a crude estimated value of 7% was calculated for GERD prevalence in Sri Lanka.

Mental stress and inadequate sleep were significantly higher in subjects suffering from GERD symptoms and those objectively diagnosed with GERD. Certain dietary-related habits, such as sleeping after meals, were detected in patients with GERD and GERD symptoms. Considerable changes in dietary intake and patterns were noted in patients with GERD.

## Conclusion

GERD management practices seemed more reliant on PPI-based medical management, with less emphasis on lifestyle change and behavioral therapies and even less on anti-reflux surgery. Diagnosis, follow-up, and management are ad hoc and not streamlined according to internationally recommended guidelines. Establishing centers with specialized investigation facilities such as MII-pH will optimize the diagnosis of GERD in Sri Lanka and help in the effective management of patients.