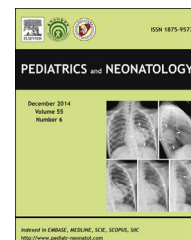


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EDITORIAL

Questionnaire for Child Gastro-esophageal Reflux Disease



Accurate diagnosis and effective management of gastro-esophageal reflux disease (GERD) can be challenging because its manifestations vary widely from mild symptoms such as regurgitation, coughing, and heartburn sensation to complicated problems such as erosive esophagitis, esophageal strictures, Barrett esophagus, aspiration pneumonia, iron deficiency, and growth retardation.¹ Some patient-centered, self-assessment questionnaires for GERD (GerdQ) have been developed for adults and have proved to be a useful tool for health care professionals in diagnosing and managing the condition without initial specialist referral or endoscopy examination.^{2,3} Because the GerdQ is self-reported, its application is mostly in adults and rarely for the pediatric population.^{4,5} A major difficulty in developing the GerdQ for children (GerdQC) is the reliability of their self-reporting. The GerdQC is still under development and has no Chinese version yet.

The article by Chiu et al⁶ in this issue of *Pediatrics and Neonatology*, is the first one to introduce a Chinese GerdQC. This article assessed 74 children using one Chinese GerdQC before they received esophagogastroduodenoscopy for upper gastrointestinal (GI) symptoms. The age range in this study was 9–18 years. The grading of erosive esophagitis according to the Los Angeles Classification of GERD was the gold standard for comparison. This study found that the GerdQC score correlated well with the severity of erosive esophagitis. The optimal cut-off of this GerdQC for predicting erosive esophagitis patients was defined as ≥ 7 , with a sensitivity of 65.5%, specificity of 80%, positive predictive value (PPV) of 67.9%, and negative predictive value (NPV) of 78.3%.⁶

As we know, the sensitivity, specificity, PPV, and NPV of a GerdQ are significantly affected by the cutoff, which is usually decided by the primary purpose and target population. For example, the GerdQ is more suitable than upper GI endoscopy for large-scale screening. In this case, a lower cutoff score with higher sensitivity to detect mild symptoms would be better than a higher cutoff score with high specificity. Additionally, the PPV and NPV, describing the

performance of a diagnostic test, are largely dependent on the prevalence in the study population. In this study, those patients who received esophagogastroduodenoscopy for upper GI symptoms already indicated a high possibility of GERD; this would consequently result in a high PPV. By contrast, the PPV of the GerdQ could be low if it is applied to the general population. Thus, the optimal cutoff with regard to sensitivity, specificity, PPV, and NPV of a GerdQ should be well studied and decided prior to its application.

In clinical practice, the management of GERD in primary care is usually based on symptom relief, and patients with a high likelihood of GERD can benefit from empirical treatment. The GerdQ has been validated for evaluative properties, which supports its use for tracking patients' symptoms. An algorithm-based GerdQ may provide physicians with a tool for more structured care of patients.^{2,3} Moreover, a symptom-based approach using GerdQ can reduce health care costs without losing treatment efficacy.⁷ The implementation of a GerdQ can help to evaluate the need for esophagogastroduodenoscopy and avoid unnecessary resource utilization.

The GerdQ has been approved as a useful complementary tool for the diagnosis and monitoring of GERD. Because the GerdQ is a self-assessment tool, patients can complete the GerdQ online, and that may help physicians monitor the management of GERD patients. Finally, we would like to see more versions of the GerdQ developed for various purposes and target populations in the future.

Conflicts of interest

The author declares no conflicts of interest.

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