Defecation Disorders in Children: Constipation and Functional Fecal Incontinence

21

Shaman Rajindrajith, Niranga Manjuri Devanarayana and Marc A. Benninga

Part 1: Constipation

Definition

Constipation in children has been defined in many ways. Some of these include Iowa criteria, the Paris Consensus on Childhood Constipation Terminology (PACCT) criteria, Rome II criteria, and Rome III criteria [1–4]. Rome III criteria for defecation disorders are the currently accepted definitions and are shown in Table 21.1. What these criteria have in common is the usage of multiple features that can be used together in the clinical setting to define constipation. In Rome III definition, younger children (<4 years) should fulfill two criteria for at least 1 month, whereas older children need to have symptoms over a period of 2 months.

Using a single clinical feature, such as low bowel frequency, to define constipation can be misleading. It has been shown that around 0.4–20% of otherwise healthy children have at least one feature of Rome III criteria [5, 6]. Furthermore, bowel frequency is known to be variable in different regions of the world possibly depending on diet, genetics, and environmental factors [5, 7]. Therefore, it is imperative that the clinician's perspective is more flexible and he or she understands the changes in bowel frequency in the context of local and patient variables.

Several studies have assessed the diagnostic capability of Rome III criteria to identify functional constipation in children. A school-based study including 10–16-year-olds showed Rome III criteria are more inclusive in diagnosing constipation [8]. Another study based on outpatients referred to a tertiary care hospital noted that 87% of children had constipation according to Rome III criteria, whereas only 43% children were classified as having defecation disorders using Rome II criteria [9]. Although both these studies indicate the superiority of Rome III criteria in the diagnostic process, the required duration of 2 months appears to be a little too long and may result in delayed treatment, especially in older children.

Magnitude of the Problem

Constipation is a global health problem. Studies from Europe showed a prevalence range from 0.7 to 17.6% among children [9–14]. In the USA, 10% of 5–8-years-olds are having constipation [6].

Two studies from Brazil pointed out alarmingly higher rates of over 20% occurrence of constipation in a 1–10-year-old population [14, 15]. More disturbing data are emerging from Asia. The prevalence of constipation in Taiwan was 32.2% in children in elementary schools and in Hong Kong 12–28%, indicating constipation is becoming a bigger problem in newly developing economies from Asia [16–18]. Similarly, developing nations in Asia like Sri Lanka also show 15% of their school children are suffering from chronic constipation [19]. These data underscore the magnitude of the disease burden and are shifting its epicenter of prevalence from the West to the East. The differences in prevalence need to be interpreted with some caution as the wider variations seen may partly be due to differences in definitions used, differences in age groups included, and heterogeneity of survey methods.

S. Rajindrajith (✉)
Department of Pediatrics, Faculty of Medicine, University of Kelaniya, Talagolla Road, Ragama 11010, Sri Lanka
e-mail: shamanrajindrajith4@gmail.com

University Pediatric Unit, Teaching Hospital, Ragama, Sri Lanka

N. M. Devanarayana
Department of Physiology, Faculty of Medicine, University of Kelaniya, Thalagolla Road, Ragama 11010, Sri Lanka
e-mail: niranga1230@lycos.com

M. A. Benninga
Department of Pediatric Gastroenterology and Nutrition, Emma Children's Hospital, Academic Medical Centre, Amsterdam, The Netherlands
e-mail: m.a.benninga@amc.nl

S. Guandalini et al. (eds.), *Textbook of Pediatric Gastroenterology, Hepatology and Nutrition*,
DOI 10.1007/978-3-319-17169-2_21