The Belgian consensus on irritable bowel syndrome: the paediatric gastroenterologist view

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The Belgian consensus on irritable bowel syndrome (IBS) in adults published in this issue offered us, as Belgian paediatric gastroenterologists, an opportunity to underline the differences in approach between adults and children and adolescents with IBS. Prevalence of IBS in childhood is reported between 1.2 and 5.4 %. A more recent article communicates a worldwide pooled prevalence of 13.8% (1,2). Bias exists since not all studies differentiate between the different Functional Abdominal Pain Disorders (FAPDs) (IBS, functional dyspepsia, abdominal migraine and functional abdominal pain not otherwise specified) or apply the same ROME criteria (II, III, IV) (Table 1) (2).

Table 1. — **Diagnostic criteria for Irritable Bowel Syndrome in children & adolescents**

Diagnostic criteria for IBS in child/adolescent, must include all the following:
- Criteria must be present **for at least 2 months**
- Abdominal pain at least 4 days per month associated with one or more of the following
  - Related to defaecation
  - A change in frequency of stool
  - A change in appearance of stool
- In children with constipation, the pain does not resolve with resolution of the constipation. Children in whom the pain resolves have functional constipation, not IBS.
- After appropriate evaluation, the symptoms cannot be fully explained by another medical condition.

Legend: adapted from ROME IV. Pediatric Functional Gastrointestinal Disorders – Disorders of Gut-Brain Interaction". ROME FOUNDATION, Raleigh, North Carolina. First Edition 2016 (1,3).

The pain, the distress and the burden of IBS in children and adolescents are very frequently considered to be negligible. Parents and health care professionals estimate that the child will outgrow these complaints or that pain is faked to escape from school or other activities.

The aetiology of IBS is multifactorial (based on the biopsychosocial model), independent of the age of the patient. Neuro imaging studies provide information on functional connectivity changes in the neural networks and structural adaptations in different regions of the brain in adolescents with IBS (4,5). The impact of pain on the neurobiological development of the child/adolescent is substantial (6). In the literature 41.0 to 45.6% of children with FAPDs will become adults suffering from IBS and/or other Disorders of the Gut-Brain Interaction (DGBI), which were previously designated as Functional Gastro-Intestinal Disorders (FGIDs). In other words: a child/adolescent with a FAPD is at increased risk to still suffer FAPDs as adult (7-9).

Quality of life of the patient and his family may be as seriously impacted in children, just as in adults (10,11).

Consequently children and adolescents need adequate treatment (1,3,6).

Differences and/or specificities to take into consideration when dealing with children and adolescents with IBS are listed in Table 2. We consider puberty and maturity more relevant than age itself; but if an age-related cut-off should be proposed, we propose 16 years.

Due to the lack of high-quality, placebo-controlled trials of pharmacologic treatment for paediatric FAPDs, there is no evidence to support routine use of any pharmacologic therapy. Treatment should be tailored for patients not responding to initial first-line approach in specialised centres (2,9).

Highlights of the management of IBS in children and adolescents are:
- the need of a prompt and positive diagnosis
- clear and open patient - parent - doctor communication
- education of both the patient and parents
  - on the multifactorial factors playing a role in IBS
  - explaining the gut-brain-gut communication
  - the difference between acute and chronic pain
  - the vicious circle of pain: inactivity – lack of sleep – low energy – effect on mood.
  - the impact of the disease on the child/adolescent and his family on different levels: physical, functional, emotional, social
  - self-management strategies to decrease pain, fear and anxiety and improve functionality
  - clear out negative cognitions (16)
- in agreement with the patient work out a plan for reintegration of age-appropriate activities
  - normal day-night rhythm
  - healthy eating habits

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Submission date: 04/02/2022
Acceptance date: 22/02/2022

- school attendance
- social activities
- daily work out (walking, bicycling,…)

– weekly appointments for re-evaluation of the evolution

Conclusion

IBS is common in children/adolescents. Due to the dysfunction the clinical picture can sometimes be very impressive. Patient and parents often feel that the burden of disease is not recognized. Two months of complaints are sufficient to establish diagnosis. In daily paediatric clinic differentiation with other FAPDs is not necessary since the approach will be identical. An extended medical history and clinical examination will in the absence of red flags make the diagnosis clear. Otherwise non-extensive testing is necessary as described in adults. Once the diagnosis is unequivocal it can be shared with

Table 2. — **Irritable bowel syndrome: differences and similarities between adults and children/adolescents**

	Children/Adolescents
1. AETIOLOGY AND IMPACT	Comparable to adults
2. SYMPTOMS	
Duration of symptoms (according to Rome IV criteria)	At least 2 months, instead of 6 months (1,3)
Additional red flags symptoms	Involuntary weight loss, delayed growth and puberty, unexplained fever, persistent or frequent vomiting (bile, blood), persistent diarrhoea (nocturnal), gastrointestinal bleeding, iron deficiency, anaemia, pain or tenderness away from the umbilicus, dysphagia, perianal disease, arthritis, family history of inflammatory bowel disease, coeliac disease, peptic ulcer disease
Subtyping IBS	Different subtypes are more seen as a continuum (2)
	Often studies in children do not differentiate between IBS and functional abdominal pain, not otherwise specified (2,12)
	If in children with constipation and pain the complaints do not resolve with adequate treatment for constipation, it is probably IBS-Constipation (2,12)
3. TESTING	Same attitude adults (2,12). Normal biology, chemistry, inflammatory parameters, celiac serology, stool calprotectin will ease diagnosis of IBS. There is no need for upper GI endoscopy or ileocolonoscopy except in case red flags are present.
4. FOOD	Same attitude in adults (2,12). Healthy and regular meals.
Low FODMAP diet (Fermentable Oligo- Di- and Mono-saccharides and Polyols)	The goal is that after elimination of food with a high content of FODMAPs for a period of 6 weeks, reintroduction is started under close follow-up of a dietitian trained in the use of low FODMAP diet. This is needed to prevent excessive weight loss, failure to thrive, and nutritional deficiencies (2,12,13).
5. FIRST-LINE APPROACH	
Diagnosis	Make sure that the patient and parents understand diagnosis. Use age-appropriate words and explanation. Education on IBS (see below) of child and parent is needed as it helps to diminish misconceptions and anxiety in the family (2,14)
	Do not judge pain! Children and adolescents are champions in using distractors (television, internet, games, etc.) to relieve pain, it does not mean that they do not feel pain (14)
	Children can learn management strategies (14)
	Insufficient evidence for fibres or prebiotics in children (2,12)
	No studies in paediatrics with antispasmodics, otilonium bromide (Spasmomen®), sime-thicone (Imonogas®) (2)
	Limited evidence for peppermint oil (Tempocol®), and STW 5 (Iberogast®) (2,15)
6. MANAGEMENT OF DIARRHOEA	No paediatric studies with colestyramine, loperamide, ebastine and mesalazine in children with IBS-D (2)
7. MANAGEMENT OF CONSTIPATION	Same attitude as adults (2,12) No paediatric studies on the use of prucalopride, linaclotide and lubiprostone in IBS-C (12)
8. MANAGEMENT OF INTESTINAL PERMEABILITY	Same attitude as adults (2,12)
9. MICROBIOME	Although trials report some benefit of *Lactobacillus* (now *Lacticaseibacillus*) rhamnosus GG ATCC 53103 and *Lactobacillus* (now *Limisilactobacillus*) reuteri DSM17938, evidence is considered insufficient for a recommendation (12)
10. NEUROMODULATORS AND PAIN MANAGEMENT	Studies on the use of different neuromodulators (tricyclic and SSRI antidepressant) in paediatric IBS are non-conclusive. In a clinical setting with psychological counselling, they can be considered (2)
11. NON-PHARMACOLOGICAL TREATMENT TARGETING THE BRAIN-GUT AXIS	With cognitive behavioural therapy (CBT) the patient and the family learn to cope with symptoms and regain normal function. Medical hypnosis and, mindfulness show effectiveness in a range of patients, but there is limited access and appropriate coverage by insurances. Double blind controlled studies are not feasible and qualitative studies need to be started to evaluate those treatments. Only (para)medic health care professionals can propose and integrate them in a general approach of the disease (2,12,14)

the patient and his/her parents. First-line approach will consist of clear communication and education around IBS (see above) in age-appropriated words. A concrete realistic plan to reintegrate normal activities must be defined. Referral to a paediatric gastroenterology or chronic pain team is recommended if the diagnosis is not clear, if patients and/or parents doubt the diagnosis, if patient/parent collaboration is insufficient and normal functionality cannot be resumed.

When tailored therapy is indicated (low FODMAP diet or neuromodulators) a close follow-up in a multidisciplinary team is needed.

The evidence base for the use of mind-body-oriented therapy for IBS is growing, although well-designed prospective double-blind randomized placebo controlled quantitative studies are not always feasible and qualitative research is still in its infancy. Worldwide different centres include with success the use of psychotherapy, cognitive behavioural therapy, medical hypnosis and mindfulness in their therapeutic arsenal for FAPDs (2,14,17-19). In Belgium multidisciplinary clinics to treat chronic pain and FAPDs are scarce due to the high cost, and limited availability of (para)medicals with the necessary background. But awareness is increasing and different paediatric centres start to organise multidisciplinary teams for treatment of chronic pain. Hopefully politics will recognize the impact on the affected individual and the social and economic burden of IBS, and more general FAPD and chronic pain in children and will understand the necessity to create and to correctly finance those energy and time-consuming programs.

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