

## Pattern and clinical presentation of constipation in children in Sudan

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### Abstract

**Background:** Constipation represents a common problem in children. The worldwide prevalence of functional constipation in children varies from 0.7% to 29.6%. The aim of this study is to identify common causes of childhood constipation, clinical profiles of functional constipation.

**Methods:** all children less than 16 years old who suffered from constipation and attended Gaafar Ibnaouf specialized children hospital and gastroenterology private clinic of one pediatric gastroenterologist between June 2011 and May 2012 were included in this study. Patients were considered having functional constipation if there were no objective evidences of pathological condition, and the rest were termed as organic constipation.

**Results:** a total of 150 children suffered from constipation were seen. (81 males), the age was divided into three groups, the majority 96 (64 %) aged between 1-5 years, and the least were 12 (8%) aged less than 1 year. 133 children (88.7%) had functional constipation, while the remaining 17 children (11.3%) had an associated organic disorders, among them 12 children (8%) had Hirschsprung's disease, 2 children (1.3%) had hypothyroidism, 2 children (1.3%) had celiac disease, and 1 child (0.7%) had cerebral palsy. The main clinical characteristic of functional constipation were faecal impaction presented in 59.4% of patients, straining in 43%, withholding behavior in 32.3%, soiling in 16.5%, abdominal pain in 12% of patients.

**Conclusions:** Functional constipation is the most common cause of constipation in Sudanese children.

**Keywords:** functional constipation, hypothyroidism, Hirschsprung.

Constipation represents a common problem in children, accounting for 3–10% of visits to general pediatric clinics and up to 25% of referrals to pediatric gastroenterologists worldwide.<sup>1</sup> It is divided into organic and functional constipation. Hirschsprung's disease represents the most important organic cause of constipation in children<sup>2</sup>. The Rome III criteria (revised between 2004 and 2006).<sup>3</sup> attempted to provide a symptom-based definition of functional childhood constipation.

The worldwide prevalence of functional constipation in children varies from 0.7% to 29.6%, with this condition occurring in all pediatric age groups, from newborn to young adults.<sup>4, 5</sup> The wide range in reported prevalence may be due to the use of

different criteria to define functional constipation and to differing cultural influences about what is considered a normal bowel habit.<sup>4</sup>

### Objective:

The objective of this study is to identify the common causes and clinical presentation of constipation in children presenting to a specialized paediatric hospital in Khartoum, Sudan.

### Methods and Materials:

#### Methodology:

This is a prospective hospital based comparative study. It was conducted at Gaafar Ibnaouf specialised hospital for children and Gastroenterology private clinic of a pediatric gastroenterologist (Prof. Omyma MohyEldin Sabir).

Data from all children less than 16 years, who presented with constipation-either organic or

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functional - from June 2011- May 2012 were collected through interview questionnaire, analysed using SPSS.

Ethical clearance was approved from Gaafar Ibnaouf Hospital

**Results:**

During the study period, a total of 150 children with constipation were seen. (81 males).133 children (88.7%) had functional constipation, while the remaining 17 children (11.3%) had an associated organic disorders, among them 12 children (8%) had Hirschsprung’s disease, two children (1.3%) had hypothyroidism, two children (1.3%) had celiac disease, and one child (0.7%) had cerebral palsy .Features of functional constipation included: faecal impaction in59.4%,strainingin43%, withholding behaviour in32.3%,soiling in16.5%, abdominal pain in12%, and abdominal distension in 4.5%of the patients.

**Table 1:** Specific diagnosis among children with organic constipation n = 150

Specific diagnosis	No	(%)
Hirschsprung disease	12	8.0
Hypothyroidism	2	1.3
Celiac disease	2	1.3
Cerebral palsy	1	0.7
No organic cause (functional)	133	88.7
Total	150	100.0

**Discussion:**

This is the first study from Sudan documenting the frequent occurrence of constipation among Sudanese children, with functional constipation being responsible for the majority (88.7%) of the cases.

Organic constipation seen in 11.3% of our patients goes with reports from India (15%)<sup>2</sup>but is less than that from Tunisia (24.3%)<sup>6</sup>

Hirschsprung’s disease, the most important organic cause of constipation is reported to affect6% of constipated children<sup>2</sup>Our finding of the disease in 8 % of the constipated children is consistent with that. Although

chronic diarrhea is a common presenting symptom of celiac disease, paradoxically some patients may have constipation. Matching with that only two of our children with celiac disease presented with constipation In contrast to that; constipation which is a common problem in children with special needs is seen in only one patient in this study. Being seen mainly in specialized neurology or rehabilitation centers could explain that. This may also hold true for hypothyroidism which was detected in only two (1.3%) of our patients.

Rectal faecal mass is present in 30-75% of children with constipation <sup>5</sup>.Similar to that 59.4% of patients had rectal faecal masses. On the other hand only 32.3% of our patient with functional constipation exhibit withholding behaviour which is far less than the 97% reported in USA<sup>7</sup>, this could be due to misinterpretation of symptoms. As symptom being noted verbatim, if the parents were not able to differentiate between the concept of retentive posturing and that they perceived as straining (reported in 43% of our cases), it is likely that many cases with withholding behaviour have been misinterpreted by the parents as attempts at straining for defecation.

Again faecal incontinence found in 16.5% of our patients is not going with the 30.8-85%rate reported elsewhere<sup>2,7</sup>. This may indicate that constipation is less severe in Sudanese children. Most of the patients who showed little improvement with treatment had history of faecal incontinence. This supports the consideration of faecal incontinence as a negative factor for a successful therapy.<sup>8</sup>

**Conclusion**

Functional constipation is the most frequent cause of constipation in Sudanese children. Educating the parents about the mechanism of developing constipation and the need of the long duration of treatment is a key mark success in managing constipation.

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