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Original Research Article

Study of Functional Constipation in Children of North Karnataka

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Conflict of interest: Nil

Abstract

Background: The causes of functional constipation are physical and psychological morbidity and poor quality of life. Due to lack of awareness, children suffer with functional constipation.

Method: 90 (ninety) children who visited the OPD with constipation were studied. Children who fulfilled the ROME-III criteria for constipation were evaluated for demographic profile, socio-economic status, and psychological and dietary habits affecting bowel pattern were noted.

Results: The highest age group was 2 to 4 years (66.6%), and the least was 11 to 12 years (4.4%). 67 (74.3%) were rural residents, 23 (25.5%) were urban, and the highest type of family was nuclear (68.8%); 42 (46.6%) had abnormal posture, 30 (33.3%) had fecal soiling, 8 (8.8%) had recurrent abdominal pain, 6 (6.6%) had blood-streaked stool, 2 (2%) had urinary symptoms, and 2 (2.2%) had GERD. Frequency of stool was once <3 per week in 67 (74.4%) children > 3 per week in 23 (25.5%) children. The highest stool type was type III was (70%) and the least was type IV (3.3%). The highest diet was junk food (74.4%), and 6.6% skipped breakfast. The highest psychological precipitation was 35% temper tantrums, followed by sibling rivalry at 28.8%.

Conclusion: Functional constipation is common in children, aggravated by skipping breakfast, low intake of vegetables and fruits, marital disharmony, sibling rivalry, school phobia, and aversion to using the toilet, causing a great impact on functional constipation.

Keywords: Constipation, fecal incontinence, psychological precipitation, junk food, laxatives.

Introduction

Functional constipation is a common disorder in children globally. It is characterized by infrequent, painful, and hard stools and may be accompanied by fecal incontinence and abdominal pain [1]. Functional constipation is a clinical diagnosis based on history and physical examination and is defined according to Rome IV criteria [2].

As per the international guidelines, the first steps in the treatment of children with functional constipation include demystification, education, toilet training, and laxative treatment with polyethylene glycol (PEG). In addition, guidelines advise a normal fiber and fluid intake and regular physical activity but do not recommend the use of probiotics, prebiotics, or behavioral therapy owing to a lack of evidence [3].

Laxatives are safe, but do not recommend the use of probiotics, prebiotics or behavioural therapy owing to lack of evience. Laxative are safe but do not adherence to laxatives is low, and except for the use of PEG, little is known about the long-term effects of chronic laxative use [4]. Hence, an attempt is made to evaluate the functional constipation in children of different age groups.

Material and Method

90 (ninety) children aged between 2 to 12 years who regularly visited the pediatric department of ESIC Medical College Hospital, Kalaburgi, Karnataka-585105, were studied.

Inclusion Criteria: Children below 12 years having functional constipation whose parents gave their consent for the study in writing were selected for the study.

Exclusion Criteria: Children with identifiable organic causes for constipation, such as Hirschsprung disease, anal anomalies, intestinal obstruction, or anal fissures, were excluded from the study.

Method: A pre-validated structured questionnaire consisting of questions in the local language was designed to assess the patient's demographic profile, clinical profile, and diet profile. Constipation was diagnosed based on the ROME

III criteria: 2 or more of the following and the duration of one month in less than 4 years of age and at least once per week for at least 2 months in more than 4 years.

1) Two or less defecation per week.
2) At least 1 episode of fecal incontinence per week.
3) H/o retentive posture or stool-holding maneuver.
4) H/o painful/hard stools.
5) Presence of a large fecal mass in the rectum.
6) H/o large diameter stools that may obstruct the toilet.

The duration of the study was from January 2025 to June 2025.

Statistical Analysis:

Socio demographic characteristics, the profile of functional constipation, and precipitation factors of functional constipation were classified with percentages. The statistical analysis was carried out using SPSS software.

The ratio of male and female neonates was 2:1.

Observation and Results

Table 1: Socio-demographic characteristics of children with pediatrics

- Age group: 60 (66.6%) 2 to 4 years, 17 (18.8%) 2 to 7 years, 9 (10%) 11 to 12 years
- Gender: 60 (66.6%) males, 30 (33.3%) females
- Residence: 67 (74.4%) Rural, 23 (25.5%) urban
- Types of family: 62 (68.8%) Nuclear, 24 (26.6%) joint family, 4 (4.4%) separated.

Table 2: Profile of functional constipation in children

- Clinical profile: 30 (33.3%) Fecal soiling, 8 (8.8%) recurrent abdominal pain, 6 (6.6%) Blood streaked stool, 2 (2.2%) Urinary symptoms, 2 (2.2%) GERD.
- Stool Frequency: 67 (74.4%) had <3 per weeks, 23 (25.5%) > 3 per week.
- Stool type: 6 (6.6%) type-I, 18 (20%) type-II, 63 (70%) type-III, 3 (3.3%) type-IV.

Table 3: Precipitating factors of functional constipation

- Diet: 62 (68.8%) milk, 31 (34.4%) vegetables and fruits, 67 (74.4%) junk food, 6 (6.6%) skipped breakfast.
- Psychological precipitations: 20 (22.2%) martial disharmony, 26 (28.8%) sibling rivalry, 33 (35.5%) temper tantramus, 8 (8.8%) had school phobia, 4 (4.4%) aversion to use toilet.

Table 1: Socio-demographic characteristics of the children with constipation

Socio-demographic characteristics	Age (Years)	Frequency
Age groups	2 to 7	60 (66.6%0
	5 to 7	17 (18.8%)
	8 to 10	9 (10%)
	11 to 12	4 (4.4%)
Gender	Males	60 (66.6%)
	Females	30 (33.3%)
Residence	Rural	67 (74.4%)
	Urban	23 (25.5%)
Type of Family	Nuclear	62 (68.8%)
	Joint	24 (26.66%)
	Separated	4 (4.4%)

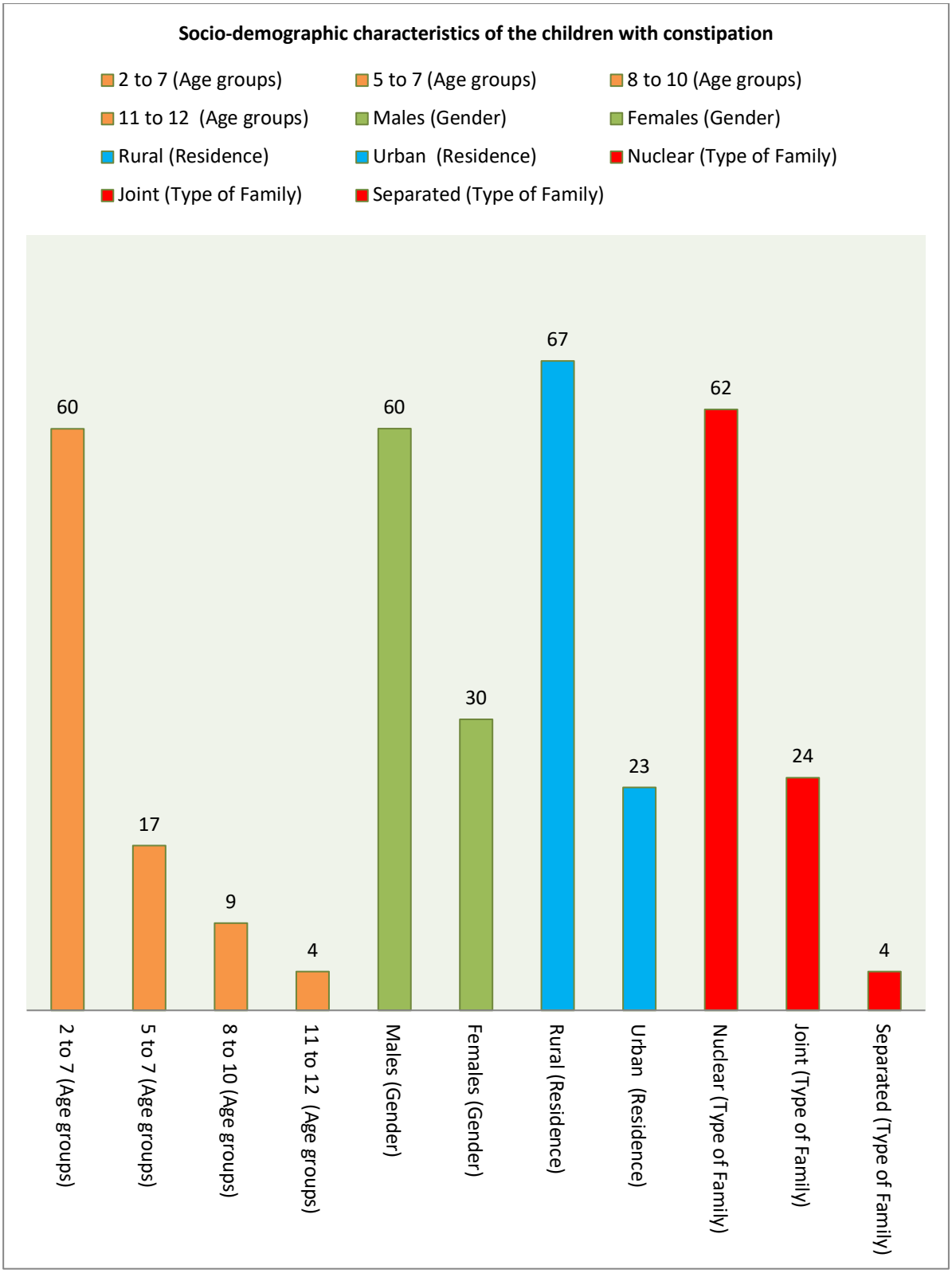

Figure 1: Socio-demographic characteristics of the children with constipation

Table 2: Profile of Functional constipation in children

Clinical profile	Abnormal posture	Frequency 42 (46.6%)
	Fecal soiling	30 (33.3%)
	Recurrent abdominal pain	8 (8.8%)
	Blood streaked stool	6 (6.6%)
	Urinary symptoms	2 (2.2%)
	FERD	2 (2.2%)
Stool Frequency	< 3 per week	67 (74.4%)
	> 3 per week	23 (25.5%)
Stool type	Type-I	6 (6.6%)
	Type-II	18 (20%)
	Type-III	63 (70%)
	Type-IV	3 (3.33%)

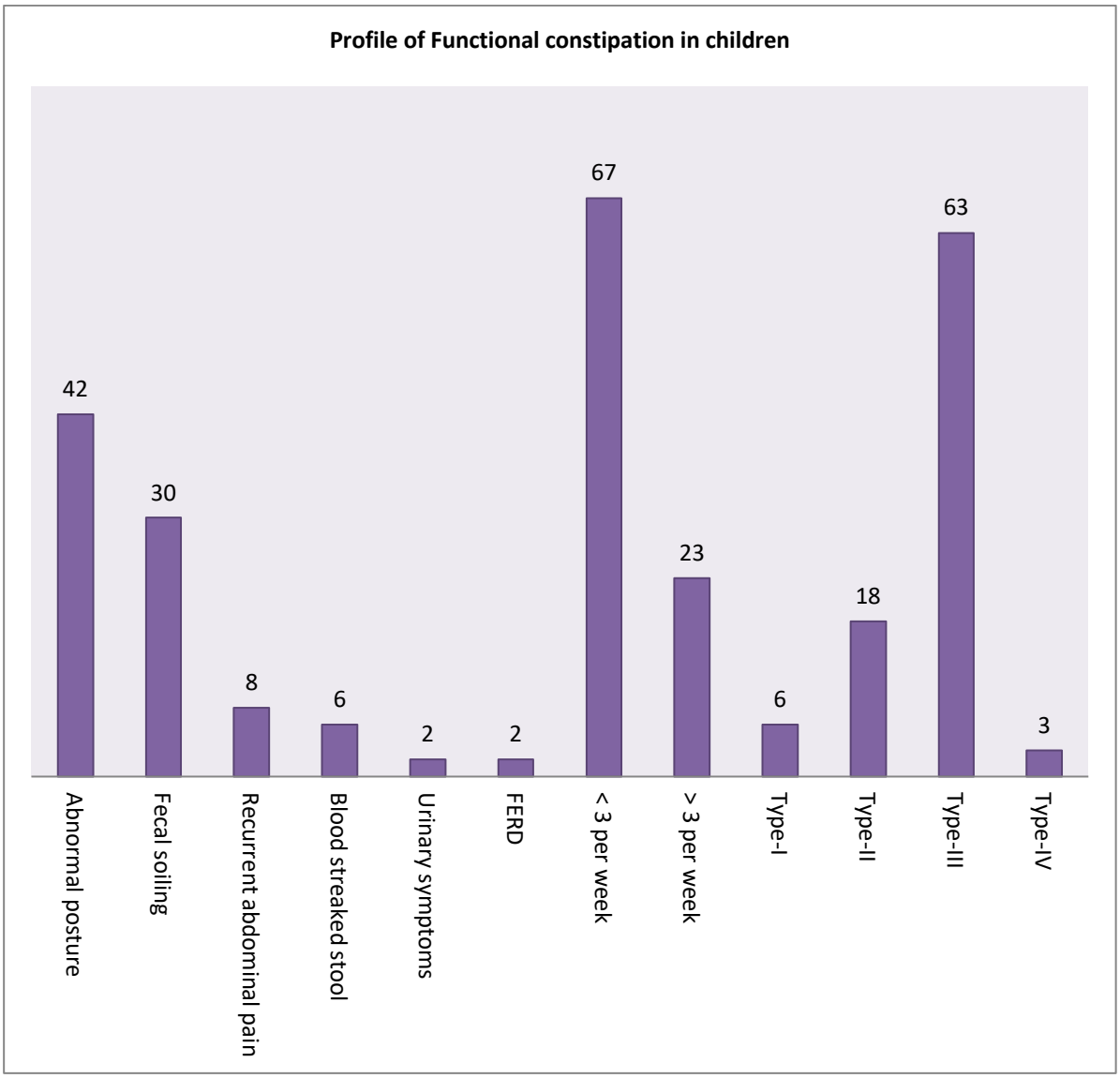

Figure 2: Profile of Functional constipation in children

Table 3: Precipitating factors of functional constipation

Precipitating factors		Frequency
Diet	Milk	62 (68.8%0
	Vegetables and fruits	31 (34.4%)
	Junk foods	67 (74.4%)
	Skipped Breakfast	6 (6.6%)
Psychological precipitations	Martial disharmony	20 (22.2%)
	Sibling rivalry	26 (28.8%)
	Temper Tantramus	33 (35.5%)
	School phobia	8 (8.8%)
	Aversion to use toilet	4 (4.4%)

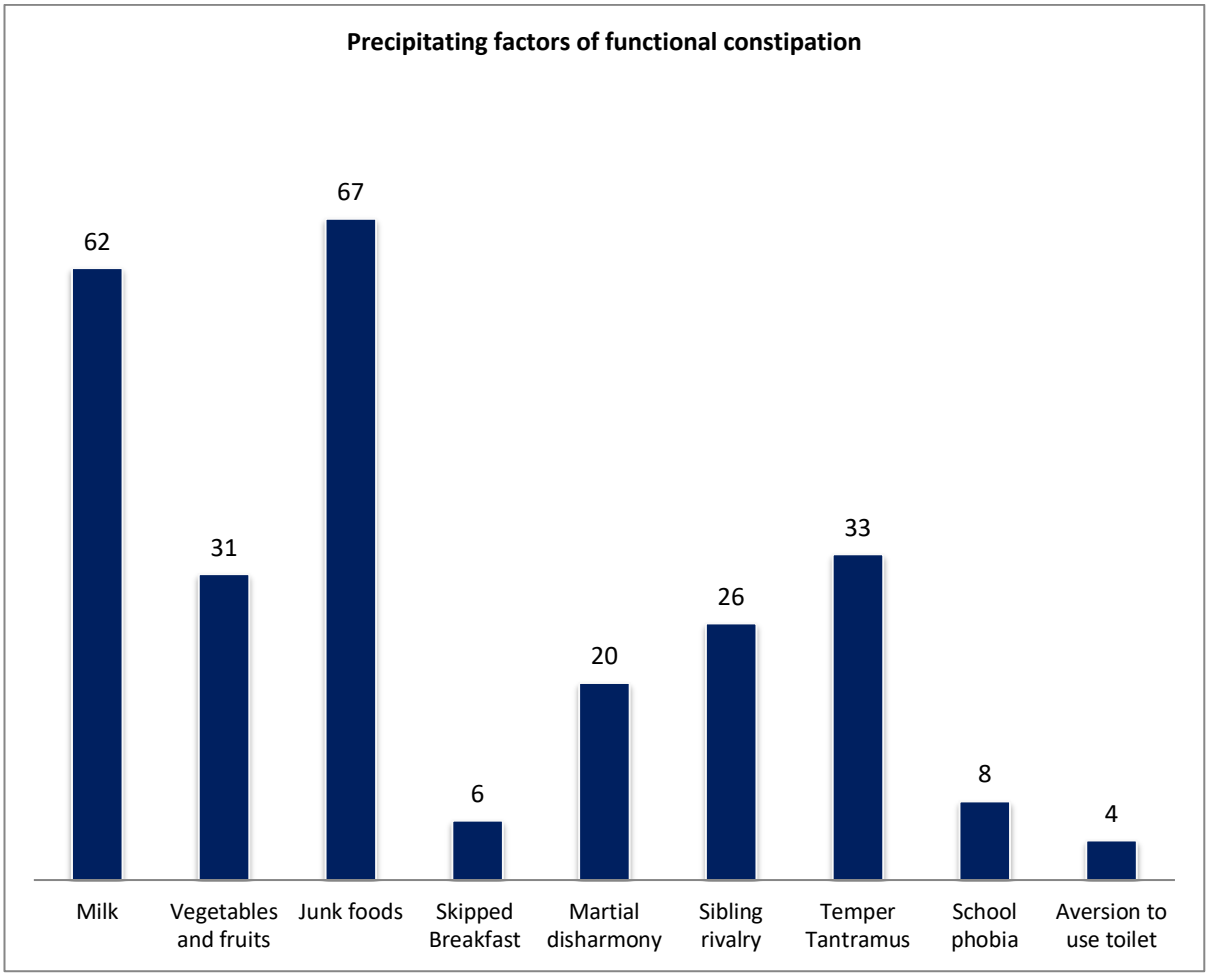

Figure 3: Precipitating factors of functional constipation

Discussion

Present study of functional constipation in children of North Karnataka. The majority of the age group was 2 to 4 years (6.66%), and the least age group was 11 to 12 years (4.4%). 74% of children belonged to rural families, 25.5% were urban residents, 68.8% had nuclear families, 26.6% had joint families, and 4.4% were separated (Table 1). In the study of clinical profiles, 46.6% had abnormal posture, 33.3% had fecal soiling, 8.8% had recurrent abdominal pain, 6.6% had blood-streaked stool, 2.2% had UTIs, and 2.2% had GERD. The frequency of stool was <3 per week in 74.4% > 3 per week in 25.5% in 25.5%. The highest type of stool was type III in 70%, and the least was 3.3% (Table 2). The highest diet was junk food at 74.4%, and the least was skipping breakfast at 6.6%. The majority of children had psychological precipitation, which was temper tantrums 35.5%, and the least was aversion to using the toilet (4.4%) (Table 3). These findings are more or less in agreement with previous studies [5,6,7].

It is reported that some prebiotic and fiber mixtures may be effective treatments, no evidence was found for the use of probiotics or synbiotics. This difference may be explained by the fact that fibers and prebiotics stimulate fecal bulking via their own mass and the ability of insoluble fibers to

bind water directly. Hence prebiotics and/or fibers have stool-softening effects [8]. Moreover, low consumption of fruits and vegetables causes frequent constipation.

Another subset of the identified interventions is biofeedback and pelvic physiotherapy, which target the act of defecation, because stool withholding is a major contributing factor in the onset and persistence of childhood constipation. By teaching children how to control their pelvic floor, in addition to laxative therapy to soften stools, they may relearn how to defecate [9]. Moreover, massage therapy, abdominal electrical stimulation, and cryotherapy might directly enhance colonic motility, although evidence of action is unclear [10].

It is hypothesized the sympathetic nervous system is mainly involved in functional constipation because a large number of children have temper tantrums; hence, psychotherapy or psychiatric counseling may be more effective to treat functional constipation in children.

Summary and Conclusion

Present a functional constipation study in children. Constipation is an iceberg disorder; such children need more attention with affection because skipping breakfast, temper tantrums, and school phobia aversions are aggravating factors in functional constipation.

Though laxatives are safer, little is known about the long-term effects of chronic laxative usage.

The present study demands that such studies must be conducted on a large number of children because the exact pathophysiology of functional constipation is still unclear.

Limitation of study: Owing to remote location of research centre, small number of children and lack of latest techniques we have limited finding and results.

This research work was approved by the ethical committee of ESIC Medical College hospital, Kalaburgi, Karnataka-585105.

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