

Original Research Article

FUNCTIONAL CONSTIPATION AND PSYCHOSOCIAL FACTORS IN CHILDREN PRESENTING TO TEACHING HOSPITAL, JAIPUR, RAJASTHAN: AN OBSERVATIONAL STUDY

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ABSTRACT

Background: Functional constipation is one of the most prevalent functional gastrointestinal disorders in pediatric populations, with a global prevalence ranging from 0.7% to 29%. Beyond its physical burden, functional constipation is increasingly recognized as a condition with significant psychosocial underpinnings. Despite the growing evidence on the role of behavioral and environmental factors, there is a paucity of observational data from the Indian subcontinent, particularly from Rajasthan, addressing the psychosocial determinants of this condition in children.

Materials and Methods: This was a hospital-based observational study conducted in the Department of Paediatrics, Mahatma Gandhi Hospital, Jaipur, from April 2024 to November 2025. A total of 150 children aged 3-15 years who fulfilled the Rome IV criteria for functional constipation were enrolled. Detailed clinical history, bowel habit profile and a comprehensive psychosocial assessment were recorded using a pre-designed structured proforma and a self-designed questionnaire. Data were analyzed using SPSS version 28.0. Descriptive statistics, Chi-square test, Fisher exact test and Mann-Whitney U test were applied. A p-value of <0.05 was considered statistically significant.

Results: The majority of children were in the 6-10 years age group (45.3%), with a mean age of 7.53

± 3.10 years and a marginal male predominance (51.3%). Hard stools (Bristol Type 1: 42.7%) and reduced stool frequency were the dominant clinical features. Key psychosocial factors identified included school-related stress (28.7%), irregular meals (21.3%), high screen time (17.3%), low parent-child interaction (14.0%) and family conflict (10.7%). Statistically significant associations were observed between psychosocial domains and age (p=0.0015), stool frequency (p=0.0128), Bristol stool type (p=0.0084) and laxative use (p=0.0064).

Conclusion: Functional constipation in children is a multifactorial condition with significant psychosocial involvement. Psychological factors were significantly associated with greater disease severity including harder stools and reduced bowel frequency, whereas behavioral/ social factors were associated with higher laxative use. A comprehensive, holistic management approach incorporating dietary modification, behavioral interventions, psychological support and parental education is essential.

Keywords: Functional constipation, children, psychosocial factors, Rome IV criteria, school stress, screen time, bowel habits, pediatric gastroenterology.

INTRODUCTION

Functional constipation is one of the most common gastrointestinal disorders in children with a global prevalence ranging from 0.7% to 29%. Defined by the Rome criteria as infrequent or difficult passage of stools without an identifiable organic cause, it accounts for up to 95% of pediatric constipation cases.^[1,2] The condition significantly affects the quality of life of affected children and their families and imposes a considerable healthcare burden.^[3] Its pathophysiology is multifactorial, involving biological, behavioral and environmental influences.^[4] Psychosocial factors play an important role in the development and persistence of functional constipation. Psychological stress, including home- and school-related stressors, family conflicts, the birth of new siblings and adverse life events, has been associated with higher rates of constipation in children.^[2,5] Emotional and behavioral problems frequently coexist with defecation disorders, although it remains unclear whether these are causes or consequences of constipation.^[6]

Early childhood temperament traits such as difficult mood, poor adaptability and high emotionality have been linked with an increased risk of constipation and soiling during school age.^[7] Children with difficult temperament are more prone to defecation anxiety and stool-withholding behaviors, which contribute to the persistence of symptoms.^[5,7,8] Studies also report higher rates of conduct, emotional and attention-related problems among children with functional constipation, particularly those with fecal incontinence. These findings support the biopsychosocial model, emphasizing the need to address both physiological and psychosocial factors in management.^[7,9] Psychological stress may influence bowel function through alterations in the brain-gut axis, hypothalamic-pituitary-adrenal axis and colonic motility. Additionally, child maltreatment and adverse experiences have been associated with more severe bowel symptoms and increased somatization. Parental factors, including parenting style and psychological well-being, also contribute to the development and maintenance of defecation disorders. Therefore, understanding the psychosocial dimensions of functional constipation is essential for developing comprehensive treatment strategies that address the physical, emotional and social needs of affected children and their families.^[2]

In India, the epidemiological profile of functional constipation in children has been less extensively studied compared to Western populations. Hospital-based studies report that children with functional constipation constitute approximately 5.6% of pediatric outpatient attendees, with functional constipation accounting for 87.18% to 94.4% of all constipation presentations to specialized gastroenterology clinics.^[10] Identified precipitating

factors in the Indian context include aversion to using school toilets, school phobia, temper tantrums, separation anxiety and sibling rivalry, highlighting the important role of psychosocial factors.^[10-12] The present study was therefore conducted to evaluate the clinical profile and psychosocial factors associated with functional constipation among children presenting to a teaching hospital in Jaipur, Rajasthan.

MATERIALS AND METHODS

This study was conducted as a hospital-based observational study to assess functional constipation and its association with psychosocial factors in children. The study was carried out in the Department of Paediatrics, Mahatma Gandhi Hospital, Jaipur - a tertiary care teaching hospital over the study period from April 2024 to November 2025, after obtaining approval from the Institutional Ethics Committee. All procedures were conducted in accordance with ethical standards.

Children aged 3-15 years presenting with symptoms suggestive of constipation were included in the study. The sample comprised all functional constipation patients whose parents had given consent and who presented to the paediatric department of Mahatma Gandhi Hospital during the study period. Prior to enrolment, written informed consent was obtained from the parents or legal guardians and assent was also obtained from older children whenever appropriate. Children who were diagnosed with pathological constipation due to organic causes such as Celiac disease, Hirschsprung disease, hypothyroidism, spinal abnormalities, cystic fibrosis, cerebral palsy and neurodegenerative disorders were excluded from the study. Children with chronic diseases such as Chronic Liver Disease and Chronic Kidney Diseases were also excluded.

Data Collection

A detailed demographic profile including age, sex, socioeconomic status and educational background was recorded for all enrolled children. A comprehensive clinical history was obtained from each participant, which included detailed information about bowel habits such as frequency of stool passage, stool consistency (hard, lumpy, or soft), presence of pain during defecation, straining and episodes of fecal incontinence. History regarding the time of first passage of meconium was specifically asked to rule out underlying organic causes. Additional history included presence of blood in stools, abdominal pain, bloating and associated symptoms. Dietary history was taken in detail, including intake of fiber-rich foods, water consumption and feeding patterns. A thorough assessment of psychosocial factors was also carried out, covering school-related stress, toilet training practices, family environment, parental attitudes, behavioral problems and any recent stressful life events. History of drug intake, especially

medications known to cause constipation and any previous surgical history were also recorded.

Diagnostic Criteria

All children were screened for functional constipation using the Rome IV Criteria, which is a standardized and widely accepted diagnostic guideline for functional gastrointestinal disorders. According to the Rome IV Criteria, functional constipation in children aged ≥ 4 years was diagnosed when two or more of the following symptoms were present at least once per week for a minimum duration of one month, with insufficient criteria for irritable bowel syndrome: two or fewer defecations in the toilet per week; at least one episode of fecal incontinence per week; history of retentive posturing or excessive voluntary stool retention; history of painful or hard bowel movements; presence of a large fecal mass in the rectum; and history of large-diameter stools that may obstruct the toilet. For children aged <4 years, the diagnosis required similar criteria but symptoms should be present for at least one month and developmental age should be considered. These criteria ensured that only cases of functional (non-organic) constipation were included, thereby excluding conditions such as Hirschsprung disease, metabolic disorders, or structural abnormalities.

Clinical Examination and Assessment Tools

A detailed clinical examination was performed in all patients, including general physical examination and systemic examination. Special emphasis was given

to abdominal examination for fecal masses and perianal examination to look for fissures, skin tags, or other abnormalities. Growth parameters such as weight, height and nutritional status were also recorded. Each patient was evaluated using a pre-designed structured proforma, which ensured uniform and systematic data collection. The proforma included sections for demographic details, clinical history, dietary habits, psychosocial assessment and examination findings. In addition, a self-designed questionnaire was administered to assess psychosocial and behavioral factors in detail, covering aspects such as toilet training habits, fear of defecation, school avoidance, peer-related stress, parental pressure and emotional disturbances. The questionnaire was completed based on responses provided either by the child or a reliable informant, usually a parent or caregiver, to ensure validity of the information.

Statistical Analysis

Data were entered into Microsoft Excel and analyzed using SPSS version 28.0. Descriptive statistics were used to summarize the data, with continuous variables presented as mean $\pm$ SD or median (IQR) and categorical variables as frequencies and percentages. Associations between categorical variables were assessed using the Chi-square test or Fisher exact test when appropriate. The Mann-Whitney U test was used for non-normally distributed continuous variables. A p-value of <0.05 was considered statistically significant.

RESULTS

A total of 150 children with functional constipation were enrolled in the study. The following table consolidates the key demographic and patient characteristics of the study population:

Table1: Demographic and Patient Characteristics

Characteristic	Frequency(n)	Percentage(%)
AgeGroup		
≤ 5 years	51	34.0%
6-10 years	68	45.3%
11-15 years	31	20.7%
MeanAge $\pm$ SD	7.53 $\pm$ 3.104years	-
Gender		
Male	77	51.3%
Female	73	48.7%
DurationofSymptoms		
≤ 10 months	65	43.33%
11-20 months	13	8.67%
21-30 months	20	13.33%
31-40 months	18	12.00%
41-50 months	16	10.67%
>50 months	18	12.00%
MeanDuration $\pm$ SD	11.087 $\pm$ 4.746	
Informant		
Mother	101	67.3%
Father	44	29.3%
Guardian	5	3.3%
FamilyStructure		
Nuclear	113	75.3%
Joint	37	24.7%
BirthOrder		
First	49	32.7%
Second	80	53.3%
$>$ Second	21	14.0%

MotherWorkingStatus		
Homemaker	91	60.7%
Full-time	43	28.7%
Part-time	16	10.7%
FatherWorkingStatus		
Full-time	145	96.7%
Part-time	5	3.3%
SchoolingType		
DayScholar	133	88.7%
DayBoarding	10	6.7%
Hosteller	7	4.7%

The majority of children belonged to the 6-10 years age group (45.3%, n=68), followed by children aged ≤5 years (34.0%, n=51) and the least proportion was in the 11-15 years age group (20.7%, n=31). The mean age of the study population was 7.53 ± 3.104 years, indicating that functional constipation was more commonly observed in younger school-aged children. Gender distribution was nearly equal with a marginal male predominance (51.3% male vs. 48.7% female), suggesting that gender may not be a

strong determinant in the occurrence of functional constipation. Most children belonged to nuclear families (75.3%, n=113) and were second-born (53.3%, n=80). The majority of mothers were homemakers (60.7%, n=91) while almost all fathers were full-time employed (96.7%, n=145). Clinical history was predominantly provided by mothers (67.3%, n=101), indicating their primary caregiver role.

Table 2: Clinical Profile of Bowel Habits among Children with Functional Constipation

ClinicalBowelProfile	Frequency	Percentage
Frequencyofstool/week		
1	23	15.3%
2	34	22.7%
3	51	34.0%
4	37	24.7%
5	5	3.3%
Stoolcolor		
Normal	146	97.3%
Dark	4	2.7%
Bristolstooltype		
Type1	64	42.7%
Type2	40	26.7%
Type3	44	29.3%
Type4	2	1.3%
Bloodinstools		
Yes	9	6.0%
No	141	94.0%
Useoflaxatives		
Yes	49	32.7%
No	101	67.3%

Regarding frequency of stool per week, the majority of children passed stool 3 times per week (34.0%, n=51), followed by 4 times per week (24.7%, n=37) and 2 times per week (22.7%, n=34), while fewer children had only 1 stool per week (15.3%, n=23) and very few had 5 times per week (3.3%, n=5), indicating reduced bowel frequency in a significant proportion. According to the Bristol stool chart, the

majority had Type 1 stools (42.7%, n=64), followed by Type 3 (29.3%, n=44) and Type 2 (26.7%, n=40), while very few had Type 4 (1.3%, n=2), reflecting a predominance of hard and lumpy stools typical of constipation. Blood in stools was reported in a small proportion (6.0%, n=9) and use of laxatives was noted in 32.7% (n=49) of children, whereas 67.3% (n=101) were not using laxatives.

Table 3: Psychological Factors among Children with Functional Constipation

PsychologicalVariable	Frequency	Percentage
Dailyscreentime		
<1hr	27	18.0%
1-3 hr	93	62.0%
>3hr	30	20.0%
Homeworktime		
<1hr	45	30.0%
1-2 hr	78	52.0%
>2hr	27	18.0%
Unwillingnesstoattendschool		
Often	26	17.3%
Sometimes	60	40.0%

PsychologicalVariable	Frequency	Percentage
Never	64	42.70%
Mother-childinteractiontime		
<1 hr	33	22.00%
1-3 hr	63	42.00%
>3 hr	54	36.00%
Father-childinteractiontime		
<1 hr	49	32.70%
1-3 hr	67	44.70%
>3 hr	34	22.70%
Dailyphysicalactivity		
<1 hr	37	24.70%
1-3 hr	72	48.00%
>3 hr	41	27.30%

The majority of children spent 1-3 hours per day on screen time (62.0%, n=93), with 20.0% (n=30) having screen time exceeding 3 hours. In terms of unwillingness to attend school, 57.3% of children showed reluctance either often (17.3%, n=26) or sometimes (40.0%, n=60), indicating that a notable proportion experienced school-related stress. Assessment of parent-child interaction time revealed that most children had 1-3 hours of interaction with

mothers (42.0%, n=63), while father-child interaction was relatively lesser, with 32.7% (n=49) having less than 1 hour of interaction with fathers. Regarding daily physical activity, nearly half of the children engaged in 1-3 hours of activity (48.0%, n=72), while 24.7% (n=37) had less than 1 hour suggesting a proportion of children with inadequate physical activity.

Table 4: Social and Behavioral Factors among Children with Functional Constipation

SocialVariable	Frequency	Percentage
Mealregularity		
Regular	109	72.7%
Irregular	41	27.3%
Fiberintake		
Adequate	72	48.0%
Inadequate	78	52.0%
Junkfoodfrequency		
Once/week	50	33.3%
1-3/week	72	48.0%
>3/week	28	18.7%
Outsidefood		
Yes	100	66.7%
No	50	33.3%
Picky eater		
Yes	36	24.0%
No	114	76.0%
Skippingbreakfast		
Often	32	21.3%
Sometimes	89	59.3%
Never	29	19.3%
Washroomuseatschool		
Yes	117	78.0%
No	33	22.0%
Coachingclasses		
Yes	44	29.3%
No	106	70.7%
Foodallergy		
Yes	24	16.0%
No	126	84.0%

Fiber intake was inadequate in 52.0% (n=78) of children, slightly exceeding those with adequate intake (48.0%), highlighting a key dietary risk factor for constipation. Consumption of junk food was prevalent with 48.0% (n=72) consuming it 1-3 times per week and 18.7% (n=28) more than three times weekly. Additionally, 66.7% (n=100) of children consumed outside food, which may further contribute to unhealthy dietary patterns. Regarding

breakfast habits, 59.3% (n=89) sometimes skipped breakfast and 21.3% (n=32) often skipped it, indicating a high prevalence of irregular eating habits that may disrupt normal bowel physiology. Importantly, 22.0% (n=33) avoided using school washrooms, which may lead to voluntary stool withholding - a known contributor to functional constipation.

Table 5: Associated Psychological and Social/Behavioral Factors Identified among Children with Functional Constipation

Factor	Frequency(n=150)	Percentage	95%CI
Psychologicalfactor			
Stressatschool	43	28.7%	21.6%-36.6%
Highscreentime	26	17.3%	11.6%-24.4%
Lowinteraction	21	14.0%	8.9%-20.6%
Familyconflict	16	10.7%	6.2%-16.7%
Social/behavioralfactor			
Irregularmeals	32	21.3%	15.1%-28.8%
Skippingbreakfast	10	6.7%	3.2%-11.9%
Workingmother	2	1.3%	0.2%-4.7%

Among psychological factors, the most common was stress at school (28.7%, n=43; 95% CI: 21.6%-36.6%) indicating that nearly one-third of children experienced school-related stress which may contribute to bowel dysfunction. This was followed by high screen time (17.3%, n=26; 95% CI: 11.6%-24.4%) and low parent-child interaction (14.0%, n=21; 95% CI: 8.9%-20.6%), suggesting that

behavioral and environmental factors play a notable role. Additionally, family conflict was reported in 10.7% (n=16; 95% CI: 6.2%-16.7%) of cases, highlighting the impact of home environment on gastrointestinal health. Among social and behavioral factors, irregular meal patterns were observed in 21.3% (n=32; 95% CI: 15.1%-28.8%) of children, making it the most common factor in this domain.

Table 6: Association between Psychosocial Factor Domains and Clinical Profile in Children with Functional Constipation

Variable	Category/statistic	Psychological(n=106)	Social/behavioral(n=44)	Test	Pvalue
Age(years)	Median (IQR)	10.00(7.25-14.00)	7.00(6.00-12.00)	Mann-WhitneyU	0.0015
Duration of symptoms (months)		10.00 (6.00-14.00)	11.00 (7.00-14.00)	Mann-Whitney U	0.2163
Frequency of stool/week		3.00 (2.00-4.00)	3.00 (3.00-4.00)	Mann-Whitney U	0.0128
Water intake (L/day)		1.50 (0.90-1.90)	1.20 (0.80-1.52)	Mann-Whitney U	0.204
BMI (kg/m ²)		18.80 (18.12-19.60)	18.30 (17.58-18.97)	Mann-Whitney U	0.0534
Sex	Male	56 (52.8%)	21 (47.7%)	Chi-square	0.6966
	Female	50 (47.2%)	23 (52.3%)		
Bristol stool type	Type 1	53 (50.0%)	11 (25.0%)	Chi-square	0.0084
	Type 2	25 (23.6%)	15 (34.1%)		
	Type 3	28 (26.4%)	16 (36.4%)		
	Type 4	0 (0.0%)	2 (4.5%)		
Blood in stools	Yes	9 (8.5%)	0 (0.0%)	Fisher exact	0.0588
	No	97 (91.5%)	44 (100.0%)		
Use of laxatives	Yes	27 (25.5%)	22 (50.0%)	Chi-square	0.0064
	No	79 (74.5%)	22 (50.0%)		
Stool color	Normal	106 (100.0%)	40 (90.9%)	Fisher exact	0.0067
	Dark	0 (0.0%)	4 (9.1%)		

The median age was significantly higher in the psychological group (10.00 years; IQR: 7.25-14.00) compared to the social/behavioral group (7.00 years; IQR: 6.00-12.00), with a statistically significant difference (p=0.0015), indicating that psychological factors were more prominent in older children. The frequency of stool per week was significantly lower in the psychological group (p=0.0128), indicating more severe bowel irregularity associated with psychological factors. A statistically significant association was observed in Bristol stool type (p=0.0084), where Type 1 stools (hard stools) were

more common in the psychological group (50.0%) compared to the social/behavioral group (25.0%), reflecting more severe constipation. Use of laxatives was significantly higher in the social/behavioral group (50.0% vs. 25.5%; p=0.0064), suggesting greater reliance on treatment in this group. Additionally, stool color showed a significant difference (p=0.0067), with dark stools present only in the social/behavioral group. Variables such as duration of symptoms, water intake, BMI and gender were not statistically significant between the two groups.

DISCUSSION

Functional constipation is one of the most common functional gastrointestinal disorders in children and is increasingly recognized as a chronic multifactorial condition influenced by biological, behavioral, psychological and social factors. Persistent symptoms, painful defecation and stool withholding behavior can significantly affect the quality of life of both children and their caregivers. Recent evidence highlights the important role of the brain-gut axis, where psychological stress, emotional disturbances and environmental influences contribute to the development and persistence of functional constipation. The present study evaluated the clinical profile and psychosocial factors associated with functional constipation in children and compared the findings with previously published literature. In the present study, the majority of children belonged to the 6-10 years age group (45.3%, n=68), followed by ≤ 5 years (34.0%, n=51) and 11-15 years (20.7%, n=31), with a mean age of 7.53 ± 3.104 years. Similar findings were reported by Elkhayat et al. (2016),^[13] who observed a mean age of 7.52 ± 2.74 years. However, Kondapalli and Gullapalli (2018),^[14] reported that 57.42% of children belonged to the 2-4 years age group with a mean age of 5.5 years, while Musali and Damireddy (2023),^[15] found 43.6% of cases among toddlers. Likewise, Erdur and Ayar (2020),^[16] observed that 45.3% of patients were in the 4-6 years age group. These findings indicate that although functional constipation commonly begins in early childhood, school-age children also represent a major affected group.

Males constituted 51.3% (n=77) and females 48.7% (n=73), showing a near-equal gender distribution with slight male predominance. Similar findings were reported by Kondapalli and Gullapalli (2018),^[14] who observed 52.48% males and 47.52% females, and Azam et al. (2025),^[17] who reported 53.3% males and 46.7% females. In contrast, Madhu and Agarwal (2015),^[18] Erdur and Ayar (2020),^[16] and Ranasinghe et al. (2017),^[19] reported a slight female predominance. Overall, these observations suggest that gender has a limited influence on the occurrence of functional constipation. The mean duration of symptoms in the present study was 11.087 ± 4.746 months, with 43.33% of children presenting within ≤ 10 months and a substantial proportion experiencing symptoms for more than 2-4 years. This finding highlights the chronic nature of functional constipation. Similar observations were reported by Kilincaslan et al. (2014),^[20] who noted that one-third to one-half of children continued to have symptoms even after 5 years, while approximately 25% remained symptomatic into adulthood. Niu et al. (2022),^[21] also reported that nearly 40% of children continued to experience persistent symptoms despite treatment. Furthermore, El-Sonbaty et al. (2019),^[22] demonstrated that longer

disease duration was significantly associated with behavioral problems, emphasizing the importance of early diagnosis and intervention.

The majority of clinical information in the present study was provided by mothers (67.3%, n=101), followed by fathers (29.3%, n=44) and guardians (3.3%, n=5). Similar observations were reported by Kilincaslan et al. (2014),^[20] Walter et al. (2019),^[23] Niu et al. (2022),^[21] Joinson et al. (2019),^[24] and Azam et al. (2025),^[17] where mothers were the primary source of clinical and psychosocial information, highlighting their central role in childcare and disease management. With regard to bowel habits, most children demonstrated reduced stool frequency and hard stool consistency. Approximately 69% of children had Bristol Stool Types 1 and 2, indicating hard and lumpy stools, while 6% had blood in stools and 32.7% required laxative therapy. Similar findings were reported by Musali and Damireddy (2023),^[15] who observed stool frequency of less than three times per week and painful defecation in 81.4% of children. Likewise, El-Sonbaty et al. (2019),^[22] Azam et al. (2025),^[17] Walter et al. (2019),^[23] and Kilincaslan et al. (2014),^[20] described hard stools, infrequent bowel movements, stool withholding and painful defecation as characteristic features of functional constipation.

A considerable proportion of children exhibited moderate to high screen time, with most spending 1-3 hours per day on screens. Significant academic workload was also observed, with the majority spending 1-2 hours on homework daily. Furthermore, nearly 57% of children were either often or sometimes unwilling to attend school, indicating the presence of school-related stress. These findings support the role of psychosocial factors in functional constipation. Similar observations were reported by Ranasinghe et al. (2017),^[19] who found psychological maladjustment in 33.3% of constipated children compared to 14.5% of controls. El-Sonbaty et al. (2019),^[22] reported behavioral problems in 47.3% of children, while Kilincaslan et al. (2014),^[20] observed internalizing problems in approximately 50% and externalizing problems in nearly one-third of affected children. Similarly, Joinson et al. (2019),^[24] Niu et al. (2022),^[21] and Zhao et al. (2024),^[25] highlighted the significant influence of emotional disturbances, family stress, parenting style, anxiety and depression on the occurrence and severity of constipation.

Most children belonged to nuclear families (75.3%), while 53.3% were second-born children. The majority of mothers were homemakers (60.7%), whereas 96.7% of fathers were employed full-time. Similar findings were reported by Niu et al. (2022),^[21] who identified second birth order, parental conflict and parenting style as significant risk factors. Likewise, Kilincaslan et al. (2014),^[20] Joinson et al. (2019),^[24] Motta et al. (2013),^[26] Walter et al. (2019),^[23] and Azam et al.

(2025),^[17] emphasized the importance of family environment, parental wellbeing and psychosocial stressors in the development and persistence of functional constipation.

A significant association was observed between psychosocial factor domains and the clinical profile of constipation. Children in the psychological domain were significantly older, with a median age of 10 years compared to 7 years in the social/behavioral domain ($p=0.0015$). They also demonstrated more severe stool characteristics, including a higher proportion of Bristol Type 1 stools ($p=0.0084$) and lower stool frequency ($p=0.0128$). In contrast, laxative use was significantly higher in the social/behavioral domain (50.0% vs 25.5%, $p=0.0064$). Variables such as duration of symptoms, BMI, water intake and gender did not show statistically significant associations. Similar findings were reported by Zhao et al. (2024),^[25] who identified anxiety, depression and psychological burden as independent predictors of constipation severity. Comparable observations were also reported by Ranasinghe et al. (2017),^[19] El-Sonbaty et al. (2019),^[22] Joinson et al. (2019),^[24] Niu et al. (2022),^[21] Kilincaslan et al. (2014),^[20] and Walter et al. (2019),^[23] all of whom highlighted the significant influence of psychological, behavioral and family-related factors on disease severity and persistence. These findings strongly support the biopsychosocial model of functional constipation and emphasize the need for a comprehensive management approach that addresses both gastrointestinal symptoms and psychosocial contributors.

CONCLUSION

The present study demonstrated that functional constipation is a common chronic condition among children, particularly in the school-age group, with a nearly equal distribution between males and females. Reduced stool frequency and hard stool consistency were the most common clinical features. Psychosocial and behavioral factors such as increased screen time, academic stress, school reluctance, unhealthy dietary habits and family-related factors were commonly associated with the condition. Psychological factors were significantly associated with greater constipation severity, particularly harder stools and reduced bowel frequency, while behavioral factors were more closely related to laxative use. Overall, functional constipation is a multifactorial disorder with significant psychosocial involvement, highlighting the need for early identification and a comprehensive management approach including medical treatment, dietary modification, behavioral interventions, psychological support and parental education.

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