

KNOWLEDGE, ATTITUDE AND PRACTICE OF MOTHERS TOWARDS CHILDHOOD CONSTIPATION

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ABSTRACT

Background: Constipation is one of the most frequent pathological conditions that a general pediatrician deals with.

Objective: The aim of the study was to describe childhood constipation related misconceptions or misunderstandings, knowledge, attitudes and practices of mothers. Also, we aimed to evaluate the prevalence, underlying pathology, and different etiologies of childhood constipation.

Methods: This study was a descriptive, cross-sectional study that included a questionnaire survey of 200 parents attending child health clinics in Sayed Galal university hospital during the period from March to September 2021.

Results: The age of studied cases ranged from one month to 16 years with a mean of 3 ± 3.9 year. In our study, 110 of cases were male (55%) while 90 cases (45%) were female, 160 child (80 %) have different problems in their life that affect their bowel habit, and 181 children (90.5 %) have functional constipation, while the remaining 19 children (9.5 %) have organic constipation and the most important cause was Hirschsprung disease (8 cases (4%).

Conclusion: Personality, psychological and physical health, and childrearing practices are the main causes of functional constipation in children. Also, functional constipation was the most common cause of constipation in children. History of delayed passage of meconium, presence of abdominal distension, and absence of fecal impaction point to an organic pathology.

Keywords: Knowledge, Functional constipation, Hirschsprung disease.

INTRODUCTION

Functional constipation describes persistently difficult, infrequent, or seemingly

incomplete defecation, without evidence of a primary anatomic or biochemical causes (**Khan, 2018**). Organic constipation is more

likely among young infants, and children presenting with atypical features or "alarm signs". Organic constipation accounts for fewer than five percent of cases of constipation. It usually can be distinguished from functional constipation by clinical features on the history or physical examination (**Biggs WS, Dery WH, 2006**).

Constipation can result from many causes (e.g., Hirschsprung disease, celiac disease, cystic fibrosis) but about 95% of children with constipation have functional constipation. Structural, inflammatory, or metabolic abnormalities are not present in functional constipation. Functional constipation is a very common pediatric condition; the prevalence has been reported up to 29.6% in children around the world (**Levy EL et al., 2017**).

The knowledge, attitudes and practices (KAP) of the mothers toward children constipation is critical to understanding the epidemiological prevalence and different etiologies of the disease and the effectiveness, compliance and success of the offered management (**Ferdous MZ et al., 2020**).

Ethical considerations:

1. A written informed consent was obtained from parents or the legal guardians before the study.
2. An approval by the local ethical committee was obtained before the study.
3. The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.
4. All the data of the patients and results of the study are confidential & the patients have the right to keep it.

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PATIENTS AND MATERIALS

This study was a descriptive, cross-sectional study that included a questionnaire survey of 200 parents attending child health clinics in Sayed Galal university hospital during the period from March to September 2021. They were selected by simple random method.

Inclusion Criteria:

1. Age: from birth to 16 years old.

2. Both sex.
3. Cases where constipation is a major symptom and a reason to seek medical advice.

Constipation was defined as a delay or difficulty in defecation sufficient to cause significant distress (Levy EL et al., 2017).

Exclusion criteria: There were no exclusion criteria for this study.

Methodology: All the studied children were subjected to the following:

A self-administered questionnaire included:

- I. Demographic data of children: age, sex, ethnicity, marital status, and educational level of both children and parents.
- II. Psychological distress and symptoms included: depression, anxiety, hostility, and phobic anxiety.
 1. Full history taking: The medical history should focus on the child's bowel habits, Details about the onset of symptoms, duration of symptoms and dietetic history.
 2. Complete clinical Examination: Besides

assessing weight and height, the physical examination primarily consists of abdominal examination, inspection of the perianal region, examination of the lumbosacral region, neurological examination, and abdominal radiography.

3. Digital rectal examination were done when indicated on the first visit.
4. Magnetic resonance imaging (MRI) of the spine when indicated.
5. Barium enema was done in special suspected cases of organic constipation.

Data Collection and statistical analysis:

All collected data revised for completeness and accuracy. Prerecorded data were entered into the computer using the Statistical Package for the Social Sciences (SPSS) version 16 (SPSS Inc., Chicago, Illinois, USA), to be statistically analyzed. Data were summarized using the number and percent for qualitative variables. P-values less than 0.01 were considered to be statistically significant

RESULTS

Our results will be shown in the following tables and figures:

Table (1): Demographic data of studied cases

Item	Number of caces	Percentage%
Age		
Mean \pm SD	(3 \pm 3.9) year	
Range	(One month – 16 years)	
Sex		
Male	110	55 %
Female	90	45 %
Mother Education		
Illiteracy	56	23%
Primary	90	45%
Secondary	18	9%
University	36	18%
Occupation		
Not employed	120	60%
Employed	80	40%

Table (1) shows that the age of children ranged from one month to 16 years with a mean and SD of 3 \pm 3.9 year, 110 of cases were male (55%) while 90 cases (45%) were female. Also, we found that 55 parents (27.5%) not educated, 90 parents (45 %)

just completed their primary school, 19 parents (9.5%) reached secondary school, and 36 mothers (18 %) have completed their education to university. Regarding the occupation, about 120 mothers were non employed.

Table (2): Age of onset of constipation

Age	No	Percentage (%)
From birth – 4 years	40	20
4y – 8 y	120	60
8 y – 12 y	35	17.5
12 y – 16 y	25	12.5

Table (2) shows that the most affected age group was from 4 years to 8 years.

Table (3): Results of Psychological questionnaire of studied cases

Psychological distress	No	Percentage (%)
Depression	60	30
Anxiety	45	22.5
Phobic anxiety	55	27.5
Normal	40	20

Table (3) shows that 160 child (80 %) have different problems in their life including

depression in 30 % of cases, anxiety in 22.5 %, and phobic anxiety in 27.5 % of cases.

Table (4): comparison of psychological screening of studied cases regarding to types of constipation

	Functional constipation	Organic constipation	P value
Depression	53	7	< 0.01
Anxiety	42	3	
Phobic anxiety	51	4	
Normal	35	5	
Total	181	19	

Table (4) shows that there were statistically significant differences between functional and organic constipation

regarding the psychological distress that involved depression, anxiety, and phobic anxiety (p value was < 0.01).

Table (5): Knowledge and practice of mother about constipation in studied cases

	Items	Response	
		Wrong	Correct
Knowledge	Definition of constipation	140 (70 %)	60 (30 %)
	Is constipation a disease or a symptom?	120 (60 %)	80 (40 %)
	Causes of constipation in children	130 (65 %)	70 (35 %)
	Causes of functional constipation in children	110 (55 %)	90 (45 %)
	Common symptoms of constipation	105 (52.5 %)	95 (47.5 %)
	Complications of constipation in children	135 (67.5 %)	65 (32.5 %)
Practice	Initial treatment to do at home to treat your child's constipation before taking him to the doctor.	105 (72.5 %)	95 (47.5 %)
	Treatment given when the child experiences fecal impaction and obstruction of the intestine.	145 (52.5 %)	55 (27.5 %)

Table (5) shows that the responses of knowledge and practices regarding childhood constipation among parents were converted as correct and incorrect answers. It was found that 95 (47.5%) had good practices regarding the initial

home treatment of constipation in their children, while 27.5% (n=55) of mothers had shown good practices related to the management of complicated childhood constipation (fecal impaction).

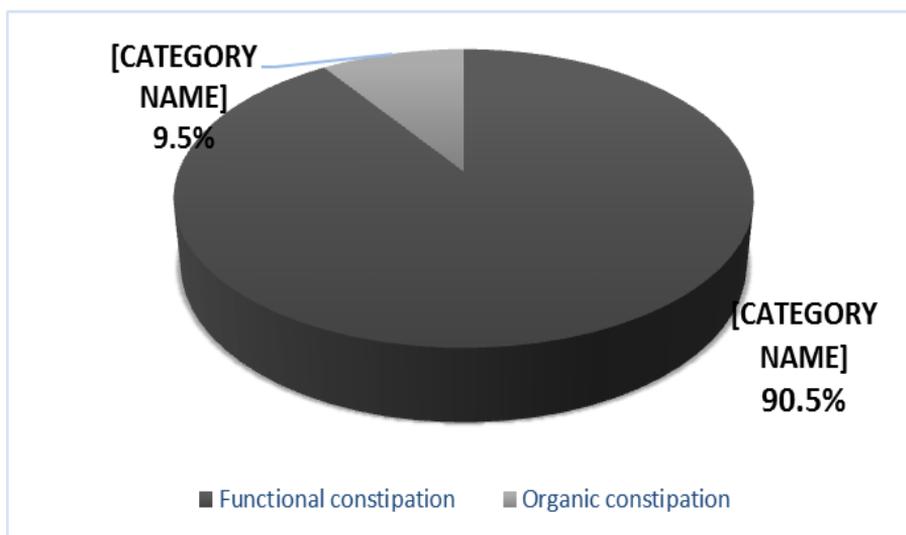


Figure (1): Incidence of functional and organic constipation

Table (6): Causes of organic constipation in studied cases

Cause	No	Percentage (%)
Hirschsprung's disease	8	4
anal stenosis	1	0.5
Spinal cord abnormalities	4	2
Disorders with mental retardation	3	1.5
Spinal Muscular atrophy (SMA) type 2	1	0.5
Celiac disease	2	1

Table (6) from this table we found that 8 cases (4%) had Hirschsprung disease, spinal cord abnormalities were in 4 cases (2%), 3 children (1.5%) have

diseases with mental retardation, one child (0.5%) has anal stenosis, and one case (0.5%) with Spinal Muscular atrophy (SMA) type 2.

Table (7): Comparison between functional and organic constipation in studied children regarding clinical features

Clinical Features	Functional		Organic		P value
	No	Percentage (%)	No	Percentage (%)	
Onset of constipation	100 child > 4years	50	17 children at birth	89	< 0.001
Delayed passage of meconium	No 2	Percentage (%) 1.1	No 7	Percentage (%) 3.5	
Fecal incontinence	92 %		0.5 %		
History of fissure	88 %		1 %		
Painful defecation	26 %		2 %		
Withholding	35 %		4 %		
Abdominal pain	25 %		6 %		

Table (7) shows that significant adherence between

the two age group regarding clinical features.

DISCUSSION

Constipation affects up to 30 percent of children and accounting for an estimated 3 to 5 percent of all visits to pediatricians. The peak prevalence is during the preschool years in most reports. There is no consistent effect of gender on the prevalence of childhood constipation (Coy & Doyle, 2020).

This study was a descriptive, cross-sectional study that included a questionnaire survey of 200 parents attending child health clinics in Sayed Galal university hospital. The duration of the study was from March to September 2021.

Regarding the results of the questionnaires, we found that the age of children ranged from one month to 16 years with a mean and SD of 3 ± 3.9 year, 110 of cases were male while 90 cases were female, most of parents were separated and divorced, and the majority of parents have vocational education. Most of children faced difficulty in toilet training. Regarding the age of onset of constipation, we found that mean and SD of all child were 3.5 ± 0.6 year. Also, we reported that 120 child (60%) developed constipation at age from 4 to 8 years. we found that 160 child (80%) have different problems in

their life that affect their bowel habit. 120 children (60%) have lacked intake of all nutrient in diet mainly fibers as reported by their parents.

These findings were in agreement with the results of **Serra et al., 2020**, who reported they found that the age and sex of children who did and did not suffer from constipation were comparable ($P > 0.3$). When compared with control children, constipated children were no more likely to have a parent (30% vs 40%, $P = 0.14$) or sibling (17% vs 14%, $P = 0.54$) with a history of constipation. Constipated children did not begin toilet training earlier than did control children (28 ± 7 vs 27 ± 6 months, $P = 0.30$). When compared with parents of control children, parents of constipated children reported more difficulties with toilet training ($P < 0.001$). Parents of constipated children indicated their children had more difficult and more painful defecation experiences than did parents of control children ($P < 0.001$), and constipated children were more likely to express worry about future painful defecation than were control children ($P < 0.001$).

Another study: In a review of 538 children with functional constipation, they analyzed ages

of presentation and onset, symptom duration, and behavioral/developmental problems. The subjects into quartiles (Q1–Q4) based on age of onset. Median onset age was 2.3 years. The oldest group had the shortest symptom duration before referral at 1.8 ± 1.8 years. Of the Q4 subjects, 22% had a behavioral/developmental problem ($P < 0.001$ compared with Q1–Q3). He conclude that most children develop functional constipation as infants and toddlers, but those with later onset are more likely to have behavioral/developmental issues and see a specialist sooner (**Deffaa et al., 2021**).

Mazurek et al., 2013 reported there are long delays, measured in years, between the age of onset and referral to a gastroenterologist. In the time between onset and referral. Data show that the average age of onset of functional constipation is between 3 and 4 years, and that the majority of children have onset before school age. development delays may decrease insight into a painful defecation experience and heighten anxiety and pain, so children with developmental delay or other mental health disorders may be more prone to form stool withholding habits than children with normal development.

Our data showed that children with late onset functional constipation seek Gastroenterology specialist sooner than children with an earlier age of onset. We speculate that the earlier referral is because fecal incontinence in a school-age child is intolerable to parents and schools, and the parents seek care sooner. While Roth stated that, Children who develop functional constipation before toilet training do not suffer the social stigma that accompanies fecal incontinence, and so parents may be more comfortable caring for these children without expert advice (Roth et al., 2021).

After complete evaluation and examination, we found that 181 children (90.5%) have functional constipation, 8 cases (4%) had Hirschsprung disease, spinal cord abnormalities were in 4 cases (2%), 3 children (1.5%) have diseases with mental retardation, one child (0.5%) has anal stenosis, and one case (0.5%) with Spinal Muscular atrophy while:

Regarding the presenting symptoms, we found that abdominal distension, fecal impaction, and fecal incontinence were more common in children with functional constipation while delayed passage of meconium was more common in children with Hirschsprung disease.

This was in agreement with Poddar et al., 2019, they found that the median age was 44 (25.00–78.00) months, and 227 (72%) were boys. The majority, 245 (77.5%), had FC, while Hirschsprung disease was the most common organic cause (39.4%). On multivariate analysis, delayed passage of meconium, growth failure, absence of retentive posturing and absent faecal impaction significantly ($P < 0.05$) determined an organic etiology. They concluded that FC is the most common cause of constipation in children.

Also, the results of Bharti & Kumar, 2019 on 137 children indicated that (boys, 90); 117 (85%), had functional constipation while the remaining 15% had an associated organic disorder. Hirschsprung's disease accounted for 6% of all patients. Children in organic group more commonly had delayed passage of meconium (50.0% vs 1.7%), symptoms for first month of life (40.0% vs 1.7%), and abdominal distension (50% vs 5%) as compared to functional group, while fecal impaction was less common (69% vs 20%). Besides fecal impaction, straining (35%), withholding behavior (27.4%), and fecal incontinence (30.8%) were other main clinical characteristics of the functional group. In the functional

group, 'successful outcome' to laxatives was obtained in 95% of patients while 10% needed rescue disimpaction. They concluded that Functional constipation is the most common cause of constipation in Indian children. History of delayed passage of meconium, presence of abdominal distension, and absence of fecal impaction point to an organic pathology.

CONCLUSION

- Personality, psychological and physical health, and childrearing practices are the main causes of functional constipation in children.
- Functional constipation is the most common cause of constipation in children. History of delayed passage of meconium, presence of abdominal distension, and absence of fecal impaction point to an organic pathology.
- Hirschsprung disease is the most common cause of organic constipation in children.

RECOMMENDATION

- Mothers should not give medical treatment for their children if there is delay in the bowel habits for one or two days.
- Mothers should be aware of the appropriate methods of toilet training.

- Mothers should encourage their children to eat fibers rich meals.
- Seeking medical care in appropriate time with a specialized physician decrease the risk of complications of the disease.

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معرفة وموقف ممارسة الأمهات تجاه الإمساك في مرحلة الطفولة

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كان الهدف من الدراسة هو وصف المفاهيم الخاطئة أو سوء الفهم المتعلق بالإمساك في مرحلة الطفولة، والمعرفة، والمواقف والممارسات للأمهات. أيضاً، نهدف إلى تقييم مدى انتشار الإمساك في مرحلة الطفولة وعلم الأمراض الأساسي والمسببات المختلفة للإمساك في مرحلة الطفولة.

طريقه البحث:

هذه الدراسة عبارة عن دراسة وصفية مقطعية اشتمت على استبيان استقصائي لـ 200 ولي أمر يترددون على عيادات صحة الطفل في مستشفى جامعة سيد جلال ومستشفى جامعة الزهراء. كانت مدة الدراسة من مارس إلى سبتمبر 2021.

جرينا الاستبيانات وكانت النتائج:

1. تراوحت أعمار الأطفال بين شهر و 16 سنة بمتوسط $3 \pm$ 3.9 سنة، كانت 110 من الحالات من الذكور (55%) بينما كانت 90 حالة (45%) من الإناث.
2. معظم الآباء منفصلين ومطلقين (120 أباً) (60%).

3. فيما يتعلق بالعمر الذي ظهر فيه الإمساك، وجدنا أن متوسط الأعمار لجميع الأطفال كان 3.5 سنة.

4. سألنا الوالدين عن الضائقة النفسية الحالية وأعراضها: الوسواس القهري، الاكتئاب، القلق. فيما يتعلق بالنتائج التي توصلنا إليها، وجدنا أن 160 طفلاً (80%) يعانون من مشاكل مختلفة في حياتهم تؤثر على عادة التبرز لديهم.

5. من بين 200 طفل يعانون من الإمساك، 181 طفلاً (90.5%) لديهم إمساك وظيفي، بينما يعاني الأطفال التسعة عشر الباقون (9.5%) من الإمساك العضوي لأسباب عضوية.

بعد الفحص الكامل، وجدنا أن 7 حالات (3.5%) مصابة بمرض هيرشسبرونغ، وتشوهات الحبل الشوكي كانت في 4 حالات (2%)، 3 أطفال (1.5%) يعانون من أمراض تخلف عقلي، طفل واحد (0.5%) لديه اعتلال عضلي حشوي، طفل واحد (0.5%) يعاني من تضيق شرجي، وحالة واحدة (0.5%) مصابة بضمور عضلي نخاعي (SMA) من النوع 2.

لاحظنا وجود فرق كبير بين الأطفال المصابين بالإمساك الوظيفي والإمساك العضوي فيما يتعلق بالأعراض. فيما يتعلق بتأخر مرور العقي، فقد وجد أنه ظهر في حالتين فقط (1.1%) من إجمالي 181 طفلاً يعانون من إمساك وظيفي، لكنه ظهر في 7 أطفال (3.5%) بشكل رئيسي لديهم مرض هيرشسبرونغ مما يدل على أن هذه الأعراض أكثر شائع في

الإمساك العضوي. فيما يتعلق بظهور الإمساك، في 100 طفل (50%) يعانون من الإمساك الوظيفي، كان عمر البداية < 4 سنوات بينما في 17 حالة (89%) مع الإمساك العضوي، كان بداية الإمساك عند الولادة. يحدث سلس البراز في 92% من الأطفال المصابين بالإمساك الوظيفي بينما يحدث في 0.5% لأسباب عضوية. تم تقديم تاريخ الشق في 92% مقابل 0.5% في الإمساك الوظيفي والعضوي على التوالي. كان التبرز المؤلم، والحجب، وآلام البطن شائعة أيضاً في الإمساك الوظيفي أكثر من الإمساك العضوي (26، 35، 25 مقابل 2، 4، 6% على التوالي). أظهرت هذه النتائج فروق ذات دلالة إحصائية (قيمة $p < 0.001$).