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The stinky children: an old condition got annoying multi facets

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ABSTRACT

Functional constipation (FC) though old, yet was not so common as today, this is attributed to the modern life style. It got multi facets presentation.

Aim: 1. to estimate the prevalence among children visiting the paediatric clinic at Sea Port corporation hospital (SPCH), Port Sudan / Sudan.

2. to highlight the different clinical presentations.

3. to determine the predisposing factors behind this surge.

Method: this is a hospital – based, prospective study, held during Dec/ 2014 to August / 2016. Children with functional constipation were involved. Children with pathological causes were excluded.

Data collected in a questionnaire and analysed manually.

Results:

Prevalence: Is 25.8 %. Mean age 4.5 yrs, median age 8.5 yrs. Males slightly predominate (50.7%).

Presentation: Recurrent, chronic abdominal pain (38.9%), under ware soiling and stinky smelling (23.9%), recurrent abdominal, lower limbs / lower back aches (19.7%), urinary frequency (5.6%), urinary urgency (5.2%), urinary dripping plus secondary enuresis (2.3%), acute abdomen (0.94%), recurrent UTI (0.94%), painful defecation with stool withholding behaviour (0.94%), cyclic vomiting (0.94%), failure to thrive and anaemia (0.47%).

Predisposing factor: Sedentary life (34.7%), eating junks (23.5%), previous excessive antibiotics consumption (20.6), avoiding going to path room (19.2 %), decreased water intake (0.94%), undetermined cause (0.94 %).

Key words: Functional constipation, constipation surge, multi-facet presentation, modern life style.

Abbreviations: FC : functional constipation, SH: stool holding, UTI: urinary tract infection.

1. INTRODUCTION

Functional Constipation (FC) is an old problems across age groups, is defined as infrequent, painful defecation that present for 2 weeks or more, and sufficient to cause significant distress to the patient [1,2].

Children with this condition have no underlying medical problem. If the child feels pain during defecation, then he or she will begin to withhold to avoid pain. As this continues, rectum will gradually dilate to accommodate larger amount of stools till the normal urge to pass stools is gradually lost. This results in worsening of defecation dynamics, anal sphincter spasm, chronic rectal distension, and loss of rectal sensitivity and the urge to defecate. This vicious circle leads ultimately to faecal incontinence, known as encopresis [3,4].

Childhood FC/ SH, has no significant gender discrimination in many studies [5,6] except in one study which found significant female preponderance [7].

The diet that lack fibers [8,9], and the intestinal microbiota abundance and diversity, play significant role in the causation of constipation [10].

Childhood constipation can, now, present in many clinical aspects including acute abdomen [11, 12], and urinary symptoms [13].

To the best of my interest, no such a study to determine the prevalence, different clinical presentations, and predisposing factors to this phenomenon in Sudan, this study will raise the awareness of paediatricians to the different clinical presentations, help them counselling parents and patients.

2. MATERIAL AND METHOD

This is a hospital – based, prospective, observational study, held during the period Dec/ 2014 to August / 2016, on children visiting the general paediatric referred clinic at SPCH. Children with functional constipation were included. Children with pathological causes were excluded. Data collected in a questionnaire and analysed manually.

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3. RESULTS

Prevalence

Out of 825 child, 213 cases (25.8 %) found to suffer from constipation. Their age range was 10 mo to 16 yrs (mean 4.5 yrs, median 8.5 yrs). Males slightly predominate (108 boy - 50.7%).

Presentation (see table 1)

Recurrent, chronic, mild to moderate abdominal pain, associated with decreased appetite or picky feeding is the predominant presentation (83 – 38.9%), followed with under wear soiling and stinky smelling (encopresis, 51 - 23.9%), recurrent abdominal pain with lower limbs and / or lower back aches (42 - 19.7%), urinary frequency (12 - 5.6%), urinary urgency (11 - 5.2%), urinary dripping during the day plus secondary nocturnal enuresis (5 - 2.3%), acute abdomen (2 - 0.94%), recurrent UTI with or without recurrent abdominal pain in between (2 – 0.94%), painful defecation with stool withholding behaviour (2 - 0.94%), cyclic vomiting [2 – 0.94%), failure to thrive and nutritional iron deficiency anaemia due to chronic poor appetite (1 – 0.47%). In all cases, poor appetite and or picky feeding is observed. In all cases abdominal pain is related to oral intake.

Predisposing factor (see table 2)

The most prominent causative / predisposing factor is sedentary life and decreased physical activity due to video games, computers, and television viewing. The housing style changes, i.e residing in flats and apartments that limit child movement, instead of the previous large Sudanese houses, is also a major factor (74 – 34.7%), eating only junk food and / or excessive carbohydrates (50 - 23.5%), previous excessive antibiotics consumption (44 - 20.6), avoiding going to path room during school day as a result of unclean path rooms and / or lack of water supply (41 - 19.2 %), habitual decreased water intake (2 - 0.94%), no determined cause (2 – 0.94 %). In only 39 case (18.3%), parents knew the diagnosis and claimed it directly to the treating physician upon presentation.

Table 1 Number of cases and percentages according to mode of presentation

Presentation	Total NO (%)	Male (%)	Female (%)
Recurrent, chronic, mild to moderate abdominal pain	83 – (38.9)	40 (48.2)	43 (51.8)
soiling and stinky smelling (encopresis)	51 - (23.9)	27 (52.9)	24 (47.1)
abdominal pain with lower limbs and / or lower back ache	42 - (19.7)	23 (54.8)	19 (45.2)
urinary frequency	12 - (5.6)	4 (33.3)	8 (66.7)
urinary urgency	11 - (5.2)	5 (45.5)	6
urinary dripping during plus secondary nocturnal enuresis	05 - (2.3)	5 (100)	0
acute abdomen	02 - (0.94)	0	2 (100)
recurrent UTI with or without recurrent abdominal pain	02 - (0.94)	0	2 (100)
painful defecation with stool withholding behaviour	02 - (0.94)	2 (100)	

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cyclic vomiting	02 - (0.94)	1 (50)	1 (50)
failure to thrive and anaemia	01 – (0.47)	1 (100)	
Total NO.	213 - (100)	108- (50.7)	105- (49.)

Table 2 Predisposing Factors to constipation in children

Predisposing factor	**NO (%)**
Sedentary life style	74 (34.7)
Eating junks	50 (23.5)
previous excessive antibiotics consumption	44 (20.6)
avoiding going to path room	41 (19.2)
habitual decreased water intake	02 (0.94)
undetermined cause	02 (0.94)
total	213 (100)

4. DISCUSSION

Constipation is on rise in our community children, more than 25% in this study were affected, comparable to the universally reported prevalence of 0.7 – 29.6 %. This is attributed largely to many factors, including sedentary life style, where with the availability of digital life, the child is sitting or lying all his awaking hours watching television, playing video games on a play station, Ipad or a cellular phone, this is in agreement with the literature [2,7]. An important local factor is the change of the housings, where previously, most of the Sudan housings were villa-like with large compounds, or large fields in the outdoors for children to play freely. With the congestion of cities in the modern life, houses are changed to flats and apartments, and children find themselves in a limited place, and prefer to sit with video games. Another major contributing factor, is the new emerging eating habit in our society, were the children prefer to eat the junk food rather than the home - made food, is observed in half of the affected group, and some of them have picky feeding that lack fibers, and we know that the type of food has a known direct effect on bowel movement and ecosystem [8,9]. In more than 20%, excessive use of antibiotics early in life, either prescribed or accessed over the counter, is observed. It is known that antibiotics change the intestinal microbiome diversity and abundance, leading to inhabitant of unfriendly, harmful bacteria, that cause many health problems and diseases, least of them is constipation [10] . The lack of cleanliness and lack of water supply most of the time in the path rooms at schools, plus the long hours the child is spending at the school (from 7 am - 3 pm) encourages the child to hold his stool, and resist the desire to defecate. By the time the child is home, this desire is already abolished and forgotten. The stool will harden, defecation will be difficult and painful, the in - harry child will not give a time to evacuate his bowel, and will create a vicious circle of stool holding. This was found in 19.2% of the study group. Some children have habitual decreased water intake, though this was found in only two children, but, still is significant to be addressed as a contributing factor.

In all the study group, children seeked medical advice around 4 - 6 times, in the local city or in the capital, with two of them went abroad to two different countries, as the diagnosis was not clear, and parents were worried that their child might have a serious,

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undiagnosed condition (4 cases (1.9%). One female with recurrent abdominal, lower limb, and lower back pain, referred to an orthopaedic surgeon, diagnosed as having rheumatic disease (ankylosing spondylitis), and given ibuprofen for 7 months, without improvement (figure 1).

In this study, 2 children presented oddly with cyclic vomiting, one of them (2 yrs old boy), seen by surgery team as a case of recurrent intestinal obstruction, fortunately, x – ray revealed a faeces - filled large intestine, with inspissated air, and he responded well to the constipation management protocol, and discharged home without symptoms (figure 2). No report in the literature of cyclic vomiting that being attributed to constipation.

In two female children in this study (0.94 %), presentation was in acute abdomen, and in both the plain abdomen showed faecal impaction in the terminal ileum and caecum (figure 3a and 3b), this was in agreement with the study reported by M El Gohary in eleven child who presented with severe acute abdominal colic mimicking intussusceptions [11]. Another two children presented with urinary symptoms of urgency (figure 4) and frequency (figure 5). In the last case, parents were worried from diabetes.

In this study, no significant difference in prevalence between genders, and this is in agreement with the literature [1].

Figure 1

9 yrs old female with recurrent abdominal, lower back, and lower limb pain. Diagnosed as spinal spondylitis, treated with ibuprofen for 7 mo with no respose. Responded nicely to constipation management protocol. Observe the faecal-filled descending colon and faecolith in the dilated rectum.

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Figure 2

2 yrs boy with recurrent episodes of vomiting, seeked advice many time before diagnosis and treatment. See the whole large bowel over dilatation with air – inspissated stools.

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Figure 3a
Faecal impaction in the terminal ileum and caecum, presented with acute abdomen

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Figure 3b

Faecal impaction in the terminal ileum and caecum, presented with acute abdomen

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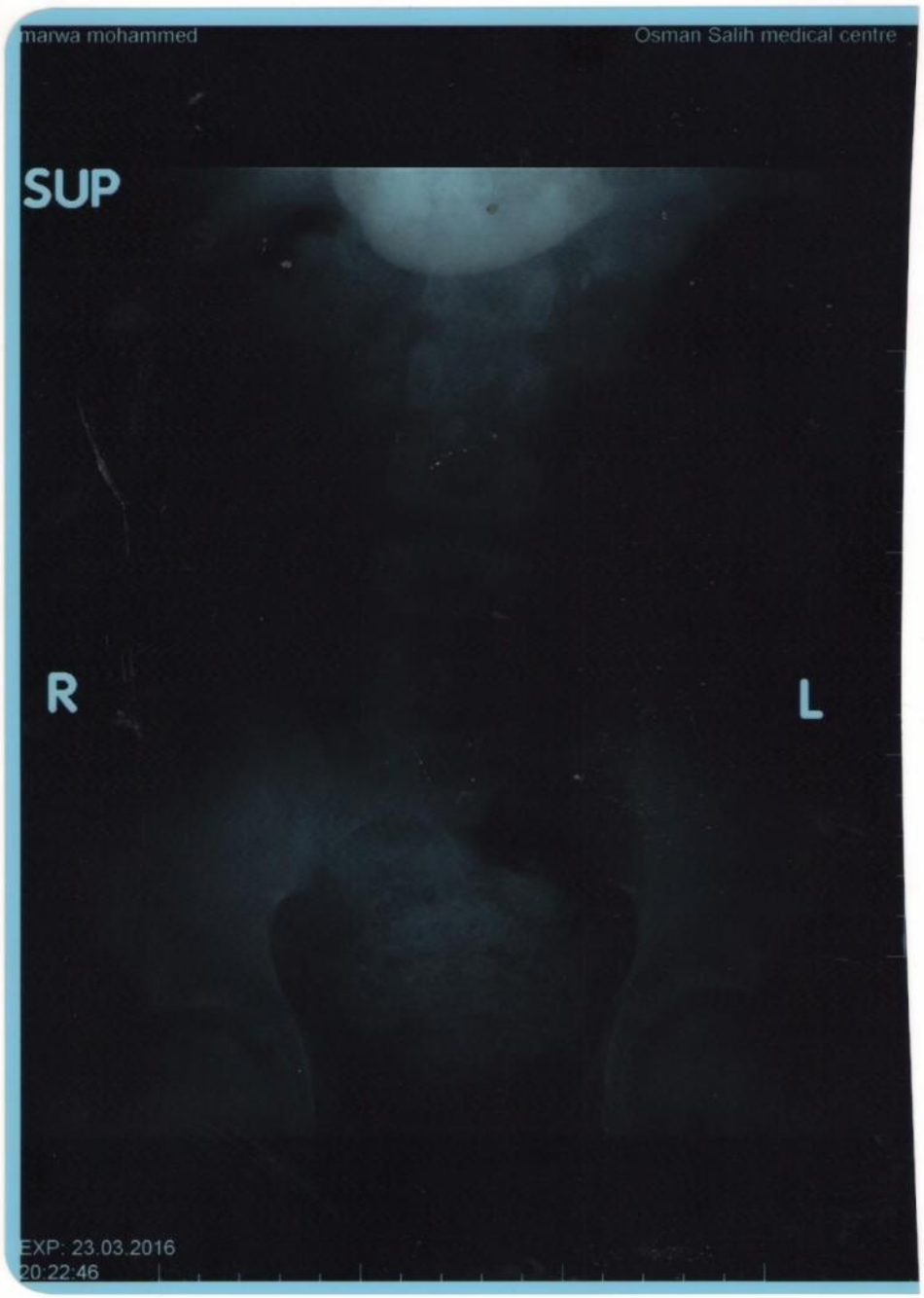

Figure 4

Distended, faecal filled rectum: presented with urinary urgency, lower limb pain, and abdominal pain with feeds

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Figure 5
Hard stools in the rectum, presented with urinary frequency. Diabetes mellitus was suspected

5. CONCLUSION

Stool holding (SH) in children is on rise in our country due to, mainly modern digital life. Stool holding can presents in different clinical manifestations, but chronic, recurrent, abdominal pain, is the commonest clinical presentation. SH should be considered in the differential diagnosis of acute abdomen, cyclic vomiting, urinary dripping, recurrent UTIs, and urinary frequency.

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SUMMARY

Functional constipation is on rise worldwide, including in our country, yet it is usually missed, as it comes in a multifacets presentation. More than 25% in this study were affected, comparable to the universally reported prevalence of 0.7 – 29.6 %. This is attributed largely to many factors, including sedentary life style, where with the availability of digital life, the child's physical activity is muchly reduced. Odd presentations can occur that paediatricians should be aware of it.

FUTURE ISSUES

FC is now an important health problem that annoy the child and his family, most children, though big enough, yet they are not aware of constipation. This problem should be introduced in the school curriculum, and its predisposing factors should be alleviated whether in the school or at home by changing the emerging , unhealthy life style. These unusual presentations should also be taught to the paediatricians to be, to avoid the families of these children the worry and fear of a serious diagnosis that they believe their children might have.

DISCLOSURE STATEMENT AND CONFLICT OF INTEREST

I disclose no funding of this study and declare no conflict of interest.

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Questionnaire on Constipation

Name: ----------

Age: ----------

Gender: ----------

Complaint: ----------

Duration: ----------

Hist. Of Admission due to this complaint: ----------

NO. Of Hospital / Clinic visits due to this Complaint: ----------

Treatment given for this complaint ----------

What do you think is your child's problem: ----------

House type: a) flat----------b) villa----------c) other----------

Type of food: a) prefers and eats junks b) home -made food

Activity: a) playing with mates/sibs (physically active) yes---------NO----

b) playing games while sitting : Yes----------No----------

c) watching TV most of the time: yes ----------No ----------

Plain abdomen X-Ray Result:

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