International Journal of Scientific Advances
ISSN: 2708-7972
Volume: 5 | Issue: 6 | Nov – Dec 2024 Available Online: www.ijscia.com
DOI: 10.51542/ijscia.v5i6.98

Quality of Life Children with Constipation in Dr. Soetomo Hospital

Arif Suryadana Saputra[1], Alpha Fardah Athiyyah[2*], Brian Eka Rachman[3]

[1]Faculty Medicne, Airlangga University, Surabaya Indonesia

[2]Departement of Pediatric, Faculty of Medicine, Airlangga University, Dr Soetomo General Hospital, Surabaya, Indonesia

[3]Departement of Internal Medicine, Faculty of Medicine, Airlangga University, Dr Soetomo General Hospital, Surabaya, Indonesia

E-mail: Arif.suryadana.saputra-2021@fk.unair.ac.id; alpha-f-a@fk.unair.ac.id; brian.eka@fk.unair.ac.id

*Corresponding author details: Alpha Fardah Athiyyah; alpha-f-a@fk.unair.ac.id

ABSTRACT

Background: Constipation is a common gastrointestinal disorder in children, often leading to discomfort, pain, and decreased quality of life. It not only impacts physical health but also affects emotional, social, and school-related functions. Despite available treatments, many children continue to suffer from chronic constipation, which can persist into adolescence. This study aims to assess the quality of life in pediatric patients with constipation at Dr. Soetomo Hospital, using the Pediatric Quality of Life Inventory (PedsQL) to measure the extent of the condition's impact. ***Objectives:*** The primary purpose of this thesis is to assess how constipation affects physical, emotional, social, and academic functioning in children. Additionally, the study seeks to identify correlations between the severity of constipation symptoms and quality of life scores across different age groups and to provide data that can inform improved management strategies. ***Methods:*** A cross-sectional study was conducted on pediatric patients aged 2-18 years diagnosed with constipation based on ROME IV criteria at Dr. Soetomo Hospital. Data were collected through the PedsQL questionnaire, which evaluates various domains of quality of life, including physical, emotional, social, and school functioning. A total sampling technique was used, with data gathered over a period from July to September 2024. ***Results:*** The overall Quality of Life (QoL) scores for children aged 2-18 years with constipation, as measured by the Pediatric Quality of Life Inventory (PedsQL), indicate a significant impact on multiple aspects of their daily lives. The total Health-Related Quality of Life (HRQOL) score across all participants was 65.5, showing a moderate reduction in overall well-being due to constipation. Physical functioning was notably affected, with a mean score of 68. Emotional functioning scored lower, reflecting emotional challenges such as frustration and anxiety, with an average score of 62. Social functioning remained relatively better at 73, suggesting that despite the physical and emotional toll, social interactions were less impacted. However, school functioning was the most affected domain, with an average score of 57, indicating significant disruptions in academic performance and concentration. ***Conclusion:*** Constipation has a profound impact on the overall quality of life of pediatric patients, affecting not only their physical health but also their emotional well-being and social and academic performance. Effective management of constipation should therefore incorporate not only medical treatment but also interventions that address these broader aspects to improve the children's overall well-being. Further research is needed to explore long-term strategies for improving the quality of life in children suffering from chronic constipation.

Keywords: pediatrics; constipation; PedsQL; quality of life; Rome IV; children.

INTRODUCTION

Diseases of the digestive system are particularly widespread among children, and constipation is the most frequent among them. Constipation includes decreased frequency of bowel movements, painful defecation, and abdominal pain. This pathology usually presents itself in a chronic course with a necessity for long-term treatment [1-2]. All this proved by many studies is evidence that such pathology interferes not only in a child's physical life but also in his emotional, social, and educational spheres.

Globally, there is a high prevalence of pediatric constipation. Prevalence rates of 18.8% have been reported in China and 18.5% in Japan, while in Indonesia, prevalence rates vary between 15.3% and 26.4% depending on the region [2]. Many times, such high prevalence is not reported because of social stigma associated with the disease and poor seeking of health care. Poor dietary fiber and fluid intake, low levels of physical activity, and psychological stress contribute to it, especially during adolescence when the dietary habits tend to worsen.

The importance of the problem transcends beyond simple alleviation of physical distress. Constipation severely affects the quality of life of a child, in the sense that it makes normal physical activities, social activities, and school activities problematic. Therefore, this study will be conducted to identify the QoL of children affected by constipation admitted in Dr. Soetomo Hospital using the Pediatric Quality of Life Inventory as a tool aimed at evaluating the physical, emotional, social, and school-related domains affected due to constipation. These results highlight the multiple dimensions of constipation and thus provide insight into guiding therapeutic interventions that are more appropriate and address overall management for these affected children.

MATERIAL AND METHODS

1. Study design and population

This study used a cross-sectional method at the Pediatric Gastroenterology Clinic of Dr. Soetomo Hospital with a total of 55 pediatric patients aged between 2 and 18 years who met the criteria for functional constipation. Data collection was carried out from July to October.

2. Inclusion and exclusion criteria

The inclusion criteria were defined by ROME IV classification: authors used the definition of two or fewer defecations per week, at least one episode of incontinence per week, history of painful defecation, presence of fecal impaction in the rectum, history of excessive volitional stool retention, and history of large diameter stools which may obstruct the toilet, as diagnostic criteria. The presence of at least two criteria of those mentioned above for at least two months is diagnostic for FC in the age group of children studied [4].

Children with constipation who Identified any organic etiology, including Hirschsprung's disease, spina bifida, mental retardation, Hypothyroidism, hypercalcemia, previous perianal surgery, and Also, growth abnormalities were excluded. From the study. Also, the use of antiepileptic, antidepressant, antipsychotic drugs, anticholinergic agents, and opioids were regarded as exclusion criteria. People with other chronic diseases and neuromuscular or neurodevelopmental conditions that may impact the quality of life of the study did not include children too[4].

3. Measuring tool

Patients in both constipated and healthy groups finished the standard version of the Persian Pediatric Quality of Life Questionnaire (PedsQoL) developed for children population aged between 2 to 18 years. These questionnaires Consist of four separate divisions: children's emotional, physical, social, and academic functioning. Physical activity consists of 8 questions and three other sections have 5 standard questions. The questions had 5 answers of never (zero), seldom ever 1), sometimes (score 2), often (score 3), and almost always (score 4), and they have been rated in a reverse manner, meaning zero scores 100 points, 1 score 75 points, 2 scores 50, 3 scores 25, and 4 scores zero. Data collection was carried out using an interview system with the children's parents, based on questions aligned with the contents of the PedsQL questionnaire.

4. Ethical considerations

The study protocol was approved by the Ethics Committee of Iran University of Airlangga, under the ethical code no 1654/LoE/301.4.2/V/2024 and performed in accordance with principles stated in the Helsinki Declaration. Detailed information about the study design and objectives was given to all participants and written informed consent was provided for those willing to participate. They were told clearly that their data would be kept confidential and analyzed anonymously.

5. Data Analyses

Statistical analysis was expressed as mean ± standard deviation (SD) for quantitative variables and as a percentage for categorical Qualitative ones. and describe it into divided into 4 groups function, physiological function, Emotion Function, School Function, and Social Function.

RESULT

This study uses a descriptive method by cross-sectioning patients' medical record data to describe the Quality of life of children with Constipation at RSUD Dr. Soetomo Surabaya for the period July - September 2023. The data is then analyzed using descriptive statistics methods, where this method describes the characteristics and basic profile of the used data. The data that has been obtained is being presented using the frequency distribution and cross-tabulation using the diagrams and tables from Questionnaire Patient.

This includes sociodemographic aspects consisting of gender, age, treatment, Nutrition, and PedsQL. The data in terms of clinical aspects consisted of clinical symptoms of Constipation Functional test during refer Children Poly Gastrointestinal. The number of patients obtained during the date range was 52 who are on inclusion.

TABLE 1: Gender Distribution.

Gender	Frequency	Percentage(%)
Female	32	61.5
Male	20	38.4

Above, most Constipation patients are dominated by Females with 61.5 or 32 patients from 52 patients and Males at 38.4 or 20 patients.

TABLE 2: Age Distribution.

Age	Frequency	Percentage(%)
2–4 years old	9	17,3
5–7 years old	10	19.2
8–12 years old	21	40.3
13–18 years old	12	23.07

Based on the table above, it can be seen that the age of Constipation patients is dominated at 8 - 12 years old with 21 patients or 40.3, followed by 13 - 18 years with 12 patients (23.07).

TABLE 3: Nutrition.

Age	Underweight (%)	Healthy weight (%)	Overweight (%)	Obesity (%)	SevereObesity	N/A (%)
2 - 4	0	2 (22.2 %)	4(44.4 %)	0	0	3(33%)
5 - 7	6(60%)	4 (40%)	0	0	0	0
8 - 12	8(38.09%)	10 (47.6%)	1(4.7%)	2 (9.5%)	0	0
13 -18	1(8.3%)	6 (50%)	1 (8.3%)	2 (16.6%)	0	2(16.6%)

Based on the table above. Based on the table above, the highest number of underweight cases is found in the 8-12 age group with 8 patients (38.09%), followed by the 5-7 age group with 6 patients (60%). For healthy weight, the highest number is in the 8-12 age group with 10 patients (47.6%), followed by the 13-18 age group with 6 patients (50%). The highest number of overweight cases is in the 2-4 age group with 4 patients (44.4%), followed by the 8-12 and 13-18 age groups, each with 1 patient. For obesity, the highest number is shared between the 8-12 and 13-18 age groups, with 2 patients each. There is no data for severe obesity.

TABLE 4: Bristool Stool.

Age	Bristol 1	Bristol 2	Bristol 3	Bristol 4	Bristol 5	Bristol 6	Bristol 7	N/A
2–4	1	0	0	2	1	1	0	4
5-7	0	1	2	2	0	2	2	1
8-12	1	7	2	3	3	2	1	2
13-18	1	5	2	0	0	1	0	3

Based on the table, it is stated that the most common Bristol type found is Bristol 2, with 13 children, followed by data that could not be found for 10 children.

TABLE 5: Treatment.

Age	Magronool(%)	Other Treatment (%)
2 – 4	6 (66,6%)	3 (33,3%)
5 – 7	8 (80%)	2 (20%)
8 – 12	13 (61,9%)	5 (38,09 %)
13 -18	6 (50%)	6 (50%)

Based on the table above, on average, pediatric gastro patients with constipation are treated using the medication Niflec in 33 children (63.4%), while 16 children are treated using other methods (36,6 %).

TABLE 6: Duration Constipation.

Age	Month > 1	N/A
2 – 4 (n=9)	5	3
5 – 7 (n=10)	6	0
8 – 12 (n=21)	18	0
13 -18 (n=12)	8	1

Based on the table above, it is stated that constipation lasting over 1 month was reported in 37 people (71,1%), while 11 people (21,1%) experienced constipation for less than 1 month, and 4 people (7.6%) could not remember when their constipation symptoms first appeared.

Age	Physic	Emotion	Social	School	HRQOL
2 – 4	70,1	62,7	77,7	45,3	66,6
5 – 7	79,06	69	66,5	56	69,1
8 – 12	68,005	63,09	79,76	51,4	65,8
13 – 18	61,4	54,5	75,8	49,5	60,5
2 - 18	69,6	62,3	74,9	52,3	65,5

From the data above, it can be said that the highest mean PedsQL physical score is in the 5-7 age group with a score of 79.06. The highest PedsQL emotional score is also in the 5-7 age group with a score of 69. The highest PedsQL social score is in the 8-12 age group with a score of 79.76, and the highest mean PedsQL school score is in the 5-7 age group with a mean score of 56.

DISCUSSION

Research variables and analysis will be discussed further in this chapter. Constipation PedsQL Children test will be analyzed alongside the demographic data, Treatment, Bristol Charts, Duration, and Nutrition. The PedsQL physics, emotion, social, and school depending on age will be discussed further in this chapter.

1. Gender Distribution

The data obtained on pediatric constipation patients at the pediatric gastroenterology clinic of Dr. Soetomo General Hospital is dominated by female patients, accounting for 61.5%, followed by male patients with a proportion of 38.4%. This is supported by research from Auila Maharani, which involved 115 respondents and was dominated by female participants at 60.9%, followed by male participants at 38.6%[5].

2. Age Distribution

From the data obtained (n=52), the majority of pediatric constipation cases were in children aged 8-12 years, accounting for 40.3%, followed by ages 13-18 years at 23.07%, and finally, ages 5-7 years and 2-4 years with 19.2% and 17.3%, respectively. The data above differs from studies linking age with constipation in children. In previous research, constipation cases from July to September were found to be 40.3% in the 8-12 year age group, with a total of 21 children. This contrasts with the teori textbook on internal medicine, which states that 90-95% of children will experience constipation, and theoretically, 40% will occur between the ages of 1-4 years(Setiati, 2015). During this period, children undergo significant changes in their bowel habits, which can cause discomfort and pain during defecation. This is often due to previous trauma during bowel movements, such as experiencing pain from hard stools, making the child reluctant to attempt to defecate[6].

3. Nutrition Table

Based on the CDC 2000 nutritional classification, there are five categories: Underweight, Healthy weight, Overweight, Obesity, and Severe Obesity. The calculation uses a formula provided by the CDC 2000, which takes into account the child's height, weight, sex, and age. It was found that the highest variable was healthy weight at 42.3% of the total children, followed by underweight at 28.8%, and then overweight at 11.5%. These results differ from previous research, which indicated that children in the overweight and obesity categories have a higher risk factor of 23%, while the underweight category has a risk factor of 14.3%, and healthy weight has a risk factor of 10.3%. (Kavehmanesh et al., 2013) The differences in the results are due to race and ethnicity, which influence the risk factors for constipation in children [7].

4. Bristol Tabel Characterize

Based on the data obtained from the Bristol Stool Chart sample, which was collected by asking parents or showing them sample photos of the Bristol Chart, or by retrieving records from Dr. Soetomo Hospital, it was found that the most common type was Bristol 2, accounting for 25%, followed by Bristol 4 at 13.4%. This is supported by the theory stating that constipation typically occurs with Bristol types 1-2.(Claudina et al., 2018) This is because Bristol types 1 and 2 are characterized by hard stools that are difficult to pass, due to a lack of water and fiber in the child's body[8].

5. Treatment Constipation

Based on the treatment of chronic constipation in children, the initial step involves using non-pharmacological approaches, such as providing adequate fiber, teaching toilet training, and ensuring proper fluid intake for the child. If non-pharmacological treatment is not effective, the next step is to use pharmacological treatment[8]. From the data obtained at Dr. Soetomo Hospital (n=52), 63.4% of the cases have already received pharmacological treatment, while the remaining 26.4% used other forms of treatment.

6. Duration Constipation

The duration of constipation can be classified into two types based on its length. The first is acute constipation, which lasts 1-4 weeks, and the second is chronic constipation, which lasts longer than 4 weeks (1 month) (Putri, 2022). From the data obtained, 37 children (71.1%) experienced chronic constipation, 11 children (21.1%) experienced acute constipation, and the rest had no available data.

7. PedsQL

PedsQL is the instrument I use to assess the quality of life in children who are indicated to have constipation based on the Rome IV criteria. PedsQL itself includes five assessment aspects: Physical, Social, Emotional, School, and overall Quality of Life. A dimension is considered good if the PedsQL score is above 70%, and less favorable if it is below 70%[9].

For the 2-4 year age group, there are 5 assessment aspects. The first is the Physical domain, consisting of 8 questions, with a mean PedsQL score of 70.1, indicating a fairly good physical aspect for this age group. The second is the Emotional domain, where the score is 62.7, slightly below the normal PedsQL threshold, as many children experience anxiety and fear due to prolonged abdominal pain. The third domain is Social, with a score of 77.7, indicating no significant social issues between the child and their peers. However, there was some inconsistency in answering the questionnaire, as parents seemed to normalize their child's social interactions. The School domain scored 45.3, which is far below the normal quality of life score for children, as some are not yet of school age, and many parents tend to suggest taking time off when their child experiences abdominal pain. And for the HRQOL is 66,6.

For the 5 – 7 year age group, there are 5 assessment aspects. The first is the Physical domain, consisting of 8 questions The mean PedsQL score of 79,6 suggests that the physical health of children in this group is relatively good. In the Emotional domain, the score is 69 which falls slightly below the typical PedsQL threshold, likely due to anxiety and fear related to prolonged abdominal pain. The Social domain scored 66,5, indicating no significant issues with peer interactions, though there was some variability in responses, possibly because parents perceived their child's social interactions as normal. The School domain had a much lower score of 56, well below the expected quality of life for children, which may be due to some children not yet being of school age and parents opting to keep their children home when they experience abdominal pain, and for the HRQOL say 69,1.

For children aged 8 to 12, there are five areas of assessment also. The first is the Physical domain, with 8 questions, where the mean PedsQL score of 68,005 There is a slight decline here, and the results are not very good. In the Emotional domain, the score is 63,09, slightly below the typical PedsQL threshold, likely due to anxiety and fear from ongoing abdominal pain. The Social domain scored 79,7, suggesting no major issues with peer interactions, though some variability in responses may be attributed to parents viewing their child's social engagement as normal. The School domain score was much lower at 51,4, well below the expected quality of life for children, Here, the child has already entered kindergarten, but due to upper abdominal pain, the child pays less attention in class and chooses not to participate in learning activities. The overall HRQOL score was 65.8.

There is a slight decline here due to one of the aspects, specifically the school aspect, which has decreased slightly because the child has already started kindergarten.

For teenagers aged 8 to 12, there are five areas of assessment also. The first is the Physical domain, with 8 questions, where the mean PedsQL score of 61,4 There is a slight decline here, the children have become reluctant to engage in activities and tend to prefer playing alone. In the Emotional domain, the score is 54,5, slightly below the typical PedsQL threshold, likely due to anxiety and fear from ongoing abdominal pain reports from parents indicate that the children have high emotional levels. The Social domain scored 75,8, suggesting no major issues with peer interactions, though some variability in responses may be attributed to parents viewing their child's social engagement as normal. The School domain score was much lower at 49,5, well below the expected quality of life for children, Here, the teenager has already entered elementary – senior high school, but due to upper abdominal pain, the teenager pays less attention in class and chooses not to participate in learning activities. The overall HRQOL score was 65.5. There is a slight decline here due to one of the aspects, specifically the school aspect, which has decreased slightly because the child has already started real school.

The results obtained from the Pediatric Gastroenterology Clinic at RSUD Dr. Soetomo indicate that the average score for children aged 2–18 years is 69.6. This is consistent with findings from other studies on constipation, which reported an average score of 56.39. These results can be considered below the normal range, as the threshold for a normal score is set at 70 [10].

The results obtained from the Pediatric Gastroenterology Clinic at RSUD Dr. Soetomo indicate that the average score for children aged 2–18 years is 74,9. This is consistent with findings from other studies on constipation, which reported an average score of 49,23. These results differ slightly because, in Indonesia, some parents still normalize bullying toward their children as a form of childhood teasing [10] The results obtained from the Pediatric Gastroenterology Clinic at RSUD Dr. Soetomo indicate that the average score for children aged 2–18 years is 62.3. This is consistent with findings from other studies on constipation, which reported an average score of 54.11. These results can be considered below the normal range, as the threshold for a normal score is set at 70 [10]. The results obtained from the Pediatric Gastroenterology Clinic at RSUD Dr. Soetomo indicate that the average score for children aged 2–4 years is 0 This is because children aged 2–4 years are not yet in school. And average for 5 – 18 is 52,3. This is consistent with findings from other studies on constipation, which reported an average score of 63,15. These results differ slightly because, in Indonesia, some parents still normalize bullying toward their children as a form of childhood teasing [10].

Adequate intake of dietary fiber can increase the frequency of defecation and make stools smoother and larger which are easier to pass. Another nutritional factor that plays a role in the incidence of constipation is fluid intake, Low fluid intake or excessive fluid loss can cause hard stool consistency.

Adolescence is considered a risky period in which adolescents adopt less nutritious eating behaviors. Teenagers tend to be unable to meet daily fiber needs compared to younger children. The results obtained from the Pediatric Gastroenterology Clinic at RSUD Dr. Soetomo indicate that the average score for children aged 2–4 years is 0 This is because children aged 2–4 years are not yet in school. And average for 5 – 18 is 52,3. This is consistent with findings from other studies on constipation, which reported an average score of 63,15. These results differ slightly because, in Indonesia, some parents still normalize bullying toward their children as a form of childhood teasing [10]. From the explanation above, we can conclude and calculate the average results for children aged 2 to 18 years. For the PedsQL results in the Physical aspect, the average score is 69.6, which is close to being considered good, although there is a decline in the 13 to 18-year age group. The second aspect is Emotional, with an average score of 62.3, which is still below the threshold for good quality of life in children with constipation. The Social aspect has an average score of 74.9, though confidence in this aspect is somewhat low, as, during the questionnaire, parents did not seem to fully observe their child's social interactions. The fourth aspect, School, scored an average of 50.5, where many children with constipation chose not to participate in learning activities due to discomfort in the upper abdomen. The overall HRQOL for children aged 2 to 18 has an average score of 65.5, which aligns with several studies indicating that children with constipation tend to experience a decline in their quality of life scores [11].

CONCLUSION

From the demographic data I have gathered, it is indicated that pediatric constipation is predominantly found in females, accounting for 61.5%, followed by males at 38.4%. The majority of children diagnosed with constipation using the Rome IV criteria are aged 8-12, representing 40%, followed by the 13-18 age group at 23.7%. In terms of nutrition, 42.3% of the children have a normal weight, while 28.8% are underweight.

The most common stool characteristic is Bristol chart type 2, with an average of 25%, followed by Bristol type 4 at 14.3%. Additionally, 71.1% of the children fall into the category of chronic constipation, and 63.4% have already undergone pharmacological treatment.

For the 2-4 year age group, the PedsQL scores are: Physical (70.1), Emotional (62.7), Social (77.7), School (45.3), and HRQOL (66.6).

For the 5-7-year age group, the PedsQL scores are: Physical (79.06), Emotional (69), Social (66.5), School (56), and HRQOL (69.1).

For the 8-12-year age group, the PedsQL scores are: Physical (68.005), Emotional (63.09), Social (79.7), School (51.4), and HRQOL (65.8).

For the 13-18-year age group, the PedsQL scores are: Physical (61.4), Emotional (54.5), Social (75.8), School (49.5), and HRQOL (65.5).

For the 2-18-year age group, the overall PedsQL scores are: Physical (69.6), Emotional (62.3), Social (74.9), School (50.5), and HRQOL (65.5).

ACKNOWLEDGEMENTS

We appreciate the patients of the pediatric gastroenterology clinic of Rasoul-e-Akram Medical Center who participated in this study.

REFERENCES

[1] Bharucha, A.E., Wald, A., 2019. Chronic Constipation. Mayo Clin Proc 94, 2340–2357. https://doi.org/10.1016/J.MAYOCP.2019.01.031

[2] Van Den Berg, M.M., Benninga, M.A., Di Lorenzo, C., 2006. Epidemiology of childhood constipation: a systematic review. Am J Gastroenterol 101, 2401– 2409. https://doi.org/10.1111/J.1572-0241.2006.00771.X

[3] Chu, H., Zhong, L., Li, H., Zhang, X., Zhang, J., Hou, X., 2014. Epidemiology Characteristics of Constipation for General Population, Pediatric Population, and Elderly Population in China. Gastroenterol Res Pract 2014. https://doi.org/10.1155/2014/532734

[4] Hyams, J.S., Di Lorenzo, C., Saps, M., Shulman, R.J., Staiano, A., Van Tilburg, M., 2016. Childhood functional gastrointestinal disorders: Child/adolescent. Gastroenterology 150, 1456-1468.e2. https://doi.org/10.1053/j.gastro.2016.02.015

[5] Putri, A., 2022. PERBEDAAN FAKTOR RISIKO KONSTIPASI FUNGSIONAL.

[6] Setiati, S., 2015. Buku Ajar Ilmu Penyakit Dalam. Jilid II Edisi VI.

[7] Putri, 2015. 47. 399930-hubungan-status-gizi-dengan- kejadian-kon-758c5dd8

[8] Claudina, I., Rahayuning, D.P., Kartini, A., Gizi Kesehatan Masyarakat, B., Kesehatan, F., 2018. HUBUNGAN ASUPAN SERAT MAKANAN DAN CAIRAN DENGAN KEJADIAN KONSTIPASI FUNGSIONAL PADA REMAJA DI SMA KESATRIAN 1 SEMARANG SCALING AND SCORING for the Acute and Standard versions OF THE, n.d.

[9] Yousefi, A., Salehi Sadaghiani, M., Norouzi, E., Yousefi, F., 2019. Impact of Functional Constipation on Quality of Life in Children. Original Article 7, 10485–10491. https://doi.org/10.22038/ijp.2019.43611.3629

[10] Müller-Lissner, S.A., Kamm, M.A., Scarpignato, C., Wald, A., n.d. Myths and Misconceptions About Chronic Constipation. https://doi.org/10.1111/j.1572-0241.2004.40885.x