

Title	Chronic childhood constipation: a review of literature and the introduction of a protocolized behavioral intervention program	Behavioral Therapy for Childhood Constipation: A Randomized, Controlled Trial	Health Related Quality of Life in Children with Constipation-Associated Fecal Incontinence	Prevalence and Associated Clinical Characteristics of Behavior Problems in Constipated Children	Parental child-rearing attitudes are associated with functional constipation in childhood
Aim	To release a newly protocolized behavioral intervention program for children with chronic constipation aged 4–18 years with guidance from literature about underlying theories from which the treatment techniques follow.	To evaluate the clinical effectiveness of behavioral therapy with laxatives compared with conventional treatment in treating functional constipation in childhood.	With a disease-specific questionnaire, this study aimed to evaluate health-related quality of life (HRQoL) in children with constipation in association with clinical characteristics.	This study assessed the prevalence of overall, internalizing, and externalizing behavior problems in children with functional constipation and explored which clinical characteristics of constipation are associated with these behavior problems.	This study investigates the association between parental child-rearing attitudes and prominent symptoms of functional constipation and assesses strength of the associations
Sample	- n = 71 articles (on chronic childhood constipation are critically reviewed and categorized into sections on epidemiology, symptomatology, etiology and consequences, treatment and effectivity, and follow-up on chronic childhood constipation)	- n = 67 children aged 4 to 18 years with functional constipation were randomly assigned to 22 weeks (12 visits) of conventional treatment, mean age = 6.5 (SD 2.1) '- n = 67 children aged 4 to 18 years were assigned to the behavioral therapy group, mean age = 6.9 (SD 2.5)	- n = 114 children, 8 to 18 years participated, mean age = 10.8 (SD 2.0)	- n = 133 children participated, mean age = 6.7 (SD 2.3)	- n = 133 children participated, mean age = 6.7 (SD 2.3)
Methods	Articles until July 2006 were identified through electronic searches in Medline, PsychInfo and Picarta. There was no limit placed on the time periods searched.	- Conventional treatment - Behavioral therapy - Child Behavior Checklist (CBCL)	- Defecation Disorder List (DDL)	- Child Behavior Checklist (CBCL) - RAKIT - WISC-III	- Amsterdam version of the Parental Attitude Research Instrument (A-PARI)
Main findings	1) This is the first article on childhood constipation presenting a full and transparent description of a behavioral intervention program embedded in literature. 2) In addition, a theoretical framework is provided that can serve as a trial paradigm to evaluate intervention effectiveness.	1) Behavioral therapy with laxatives has no advantage over conventional treatment in treating childhood constipation. However, when behavior problems are present, behavioral therapy or referral to mental health services should be considered.	1) Lower HRQoL regarding disease-specific emotional and social functioning was reported in children with frequent episodes of constipation-associated fecal incontinence. However, other non-specified factors may also influence HRQoL of these children. 2) Most children reported relatively more emotional concerns than social consequences.	1) Behavior problems are common in children who have constipation and are referred to gastrointestinal outpatient clinics, suggesting that a behavioral screening should be incorporated into the diagnostic workup of children with constipation.	1) Parental child-rearing attitudes are associated with functional constipation in children. 2) Parenting issues should be incorporated in the treatment of children with constipation. 3) Referral to mental health services is needed when parenting issues are hindering successful outcome or when the parent-child relationship is at risk.