## Internet-Delivered Cognitive Behavior Therapy for Adolescents With Irritable Bowel Syndrome: A Randomized Controlled Trial Mariane Bonnert, Ola Olén, Maria Lalouni, Marc A Benninga, Matteo Bottai, Johanna Engelbrektsson, Erik Hedman, Fabian Lenhard, Bo Melin, Magnus

## **Objectives:**

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Few treatments have been able to effectively manage pediatric irritable bowel syndrome (IBS). Internet-delivered cognitive behavior therapy (Internet-CBT) based on exposure for abdominal symptoms is effective for adult IBS. The objective of this study was to evaluate the efficacy of Internet-CBT based on behavioral exposure for adolescents with IBS.

## **Methods:**

Adolescents with IBS fulfilling the Rome III criteria were randomized to either Internet-CBT or a wait-list control. The Internet-CBT was a 10-week intervention where the main component was exposure to IBS symptoms by reduction of avoidance of abdominal symptoms and instead stepwise provocation of symptoms. The primary outcome was total score on Gastrointestinal Symptoms Rating Scale for IBS (GSRS-IBS). Secondary outcomes included adolescent- and parent-rated quality of life and parent-rated gastrointestinal symptoms. Difference between groups was assessed from pretreatment to posttreatment and the Internet-CBT group was also evaluated at 6 months after treatment completion.

## **Results:**

A total of 101 adolescents with IBS (13–17 years of age) were included in this study. Dropout rates were low (6%) and all randomized patients were included in intent-to-treat analyses based on mixed effects models. Analyses showed a significant larger pretreatment to posttreatment change on the primary outcome GSRS-IBS (B=–6.42, P=0.006, effect size Cohen's d=0.45, 95% confidence interval (0.12, 0.77)) and on almost all secondary outcomes for the Internet-CBT group compared with the control group. After 6 months, the results were stable or significantly improved.

**Conclusions:** 

Internet-CBT based on exposure exercises for adolescents with IBS can effectively improve gastrointestinal symptoms and quality of life.