area/condition	baseline	discomfort	sham	discomfort-baseline	sham-baseline
hippocampus		tanx		anx	
amygdala			tanx		tanx
occipital	anx	anx,tanx	anx		
(pre)motor	anx	anx		anx	
postcentral	anx	anx		anx,tanx	
dorsomedial prefrontal	anx	anx	anx		
dorsolateral prefrontal		anx			
brainstem	anx			anx	
inferior parietal lobule	tanx		tanx		
temporoparietal junction	anx			anx	anx
temporal pole	anx,tanx	tanx	tan	anx	
anterior cingulate	anx	anx			
midcingulate	anx		anx	anx,tanx	
cerebellum	tanx	tanx	anx	tanx	tanx

anx:state anxiety;tanx:trait anxiety

903

Rapid Response to Cognitive Behavior Therapy for Irritable Bowel Syndrome: Stepping Into a Stepped Care Model of Treatment Delivery

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Background & Aims. Cognitive behavior therapy (CBT) is recognized as an empirically validated treatment for IBS (Rome III, 2006), but little is known about how it works or for whom it is most (and least) effective. Part of the problem is that researchers have focused attention on the predictive power of baseline demographic and clinical features (e.g., distress, bowel habit, symptom duration) that generally have a small, inconsistent link to treatment outcome. A potentially more useful approach emphasizes the value of treatment factors occurring during therapy. The broader psychotherapy outcome research indicates that specific patterns of symptomatic change occurring over the course of treatment reveal important prognostic information about treatment response. Generally, rapid responders are significantly more likely to do better at the end of the acute phase of CBT and sustain gains at long term follow up than slow responders. Rapid response to CBT therefore can inform treatment planning and enhance our understanding of how treatments work. Method. We assessed rapid response in 71 Rome II diagnosed IBS patients who were randomly assigned to 1 of 2 10-week conditions of an NIH clinical trial: self-administered CBT (4 sessions; N = 35) or therapist-administered CBT (10 sessions, N = 36). Rapid responder status was defined on the basis of patients' responses to 2 binary Adequate Relief measures (pain, bowel problems) and IBS Symptom Severity Scale. Results. Rapid response (Yes on both Adequate Relief measures and ≥50 unit IBSSS reduction by week 4) characterized 29% of Ss, was unrelated to demographic features (e.g., age, gender, education, symptom duration, bowel problems), or baseline indices of psychological functioning (SF-36; BSI). Participants with rapid response at week 4 were more likely (ps < .05) to report stronger internal locus of control (IBS-LOC), self-efficacy expectancies for managing IBS (IBS-SE), and motivation for change (Treatment Self Regulation Questionnaire - IBS). While rapid responders had significantly worse quality of life (IBSQOL) and severity of IBS symptoms (IBSSSS, GSRS) at screening than non rapid responders, their IBS symptom severity was significantly lower than non rapid responders at post-treatment evaluation (ps < .05). Rapid response at week 4 was a more stable (90.5%) index of positive treatment response at post-treatment than non rapid treatment response (36%) at week 4. Reversal of early gains occurred in 2 of 21 patients. Conclusion. Rapid response is a robust clinical phenomenon having important prognostic value for understanding outcome of IBS therapies. Supported by NIH/NIDDK grant #67878

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What Predicts a Positive Outcome After a Structured Patient Education for Patients with Irritable Bowel Syndrome (IBS)?

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Background: A structured patient education improves symptoms and quality of life in patients with IBS (Ringstrom et al DDW 2007). However, patient education is costly, and not all patients respond favourably. Cost-benefit could be improved if predictors for a positive outcome were known and could be used in selecting patients for this intervention. Aims: To find predictors for a positive outcome after a structured patient education for patients with IBS ("IBS school"). Methods: IBS patients were referred from primary care physicians and gastroenterologists, to participate in a structured patient education, consisting of six two-hour lessons with eight to ten patients in each group. One out of five health care professionals held each lesson. All patients completed validated questionnaires before the start of the education to evaluate GI symptom severity (IBS Severity Scoring System, IBS-SSS), GI symptom-specific anxiety (Visceral Sensitivity Index), quality of life (IBS Quality of Life, IBSQOL), psychological symptoms (Hospital Anxiety and Depression scale) and coping resources (Sense of Coherence). Perceived levels of IBS knowledge and satisfaction with the knowledge were assessed using visual analogue scales. The patients were considered to be responders if they reported satisfactory relief of their IBS symptoms 3 months after the start of education. Results: We included 121 patients (mean age 39 (18-68) years; 101 women) with IBS according to the Rome II criteria. Fifty-four patients (45 %) were responders 3 months after the education. The responders had less severe GI symptoms at baseline compared with the non-responders (IBS-SSS: 267±81 vs.331±91 (mean ±SD); p<0.001). The responders also had significantly better quality of life at baseline compared with the non-responders, as indicated by higher scores on 7 out of 9 domains on IBSQOL (mental health, sleep, energy, food, social role, role physical, sexual; p< 0.05). There were no significant differences between the groups regarding referral status, age, sex, predominant bowel habit, symptom duration, psychological symptoms or level of perceived knowledge about IBS assessed at baseline. Conclusion: A structured patient education seems to be most efficacious in patients with moderately severe GI symptoms and somewhat better quality of life. Patients with severe GI symptoms and very poor quality of life might need more support than what is offered in a structured patient education in a group setting. These results can be used to optimize patient selection and enhance cost benefit for this intervention.

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Long Term Effects of Hypnotherapy in Refractory IBS

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Background: Hypnotherapy is considered to be an effective treatment in irritable bowel syndrome (IBS) but few studies report long-term efficacy data. This is a retrospective study to further evaluate the long-term effects on IBS symptoms of hypnotherapy. We also studied health care seeking behavior and intake of IBS-symptom modifying drugs before and during long-term follow-up after hypnotherapy. METHODS: A questionnaire (Subjective Assessment Questionnaire (SAQ); Gonsalkorale et al Gut 2003) was sent to all 244 patients who had received hypnotherapy at three different hospitals because of IBS refractory to standard management at. In total 212 patients (187 females, 25 males; mean age 46.5 (25-72) years) responded (response rate 87 %). All patients had received gut-directed hypnotherapy 1 h/week for 12 weeks from specially trained psychologists. The use of SAQ was based on the findings that such assessment is comparable to the validated IBS Symptom Severity Scale (Francis et al APT 1997). Response to therapy was defined as a change to less severe symptoms with one step on a seven-graded Likert scale. In addition, patients were asked to report their changes in healthcare seeking behavior, their use of IBS-symptom modifying drugs, their use of other types of non-pharmacological treatments and if they still actively used the hypnotherapy technique. This long-term follow up was performed 2-7 years after treatment (mean 4 years). RESULTS: The proportions of responding patients as assessed directly after the treatment period and at long term follow up was 77% and 79 % respectively. Eighty-seven percent of immediate responders maintained their SAQ improvement during the long term follow up. Eighty-seven percent of all patients judged the treatment as meaningful. The responders reported a reduction of visits to a GP for GI symptoms, a GP for other symptoms or any visits to a Gastroenterologist with 50 %, 16 %, and 47 % respectively. Twenty-eight percent of responders used less symptom modifying drugs after hypnotherapy and 37% actively used the hypnotherapy technique on a regularly basis, of which 28 % used the taped sessions. Among the 29% of patients who had tried other types of non-pharmacological treatment (60 % found it useful), 50% were considered as non-successesfully treated with hypnotherapy. There were no interhospital differences. CONCLUSION: This retrospective study shows that the high immediate response rate to hypnotherapy is well preserved during long-term follow-up of these severe, refractory IBS patients. Hypnotherapy produced less use of health care resources and less use of symptom modifying drugs.

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Anorectal Biofeedback Therapy Improves Bloating in Irritable Bowel Syndrome and Functional Constipation

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Background: There are few effective treatment options for abdominal bloating. The abdomino-phrenic incoordination and abdominal wall dystony documented in such patients may have a cognitive basis. Anorectal biofeedback is an effective treatment for constipation in non-diarrhea predominant irritable bowel syndrome (non-D IBS) and functional constipation (FC) but its effect on abdominal bloating is unknown. Aims: 1) to evaluate the effect of biofeedback therapy on abdominal bloating, with or without visible abdominal distention, in female patients with non-D IBS or FC. 2) to determine the predictors of response to such therapy. Methods: Consecutive female non-D IBS and FC patients with abdominal bloating and without aerophagy referred for biofeedback therapy were studied (n=50, age 48±14 y). Entry criteria: Rome II non-D IBS or FC, 2 or more symptoms of pelvic floor dyssynergia, 2 or more physiological criteria of pelvic floor dyssynergia. A comprehensive 6 visit individualised biofeedback program was performed including instruction on toileting, abdominal breathing technique, manometric-based biofeedback to achieve adequate rectal pressure and anal relaxation, balloon expulsion retraining, sensory retraining. The primary outcome measure was bloating score (0-4). Stool form, stool frequency, evacuation time, balloon expulsion time, rectal pressure with strain, quality of life and bowel satisfaction were assessed. Results: Patients were subdivided according to the presence (D, n=28) or absence (ND, n=22) of visible abdominal distention. Both groups reported significantly decreased bloating with biofeedback (D by 20%, ND by 36%; each p<0.01); they also improved in satisfaction with bowel movements (D by 204%, ND by 117%; each p<0.001) and in quality of life (D by 36%, ND by 34%; each p<0.0001). Predictors of improvement in bloating were prolonged balloon expulsion time at baseline (p=0.004) for ND, and improvement in evacuation time (p=0.01) for D. Overall for both groups, improvement in evacuation time predicted improvement in bloating (p<0.05); there was a trend for an association with improvement in straining rectal pressure (p=0.09). Conclusion: Biofeedback therapy is a treatment option for patients with bloating and constipation, with or without visible abdominal distention. The main predictor of response to therapy was improvement in evacuation time rather than a change in stool form or frequency. There was a trend for improvement in rectal pressure with strain as a predictor. The mechanism of improved bloating may relate to greater efficiency of evacuation, and perhaps improved abdomino-phrenic co-ordination, rather than alterations in transit.