

# Behavior Therapy for Obsessive-Compulsive Disorder Guided by a Computer or by a Clinician Compared With Relaxation as a Control

John H. Greist, M.D.; Isaac M. Marks, M.D.; Lee Baer, Ph.D.;  
Kenneth A. Kobak, Ph.D.; Keith W. Wenzel, B.S.; M. Joyce Hirsch, M.A.;  
Julia M. Mantle, R.N., M.S.; and Cathryn M. Clary, M.D.

**Background:** The demand for effective behavior therapy for obsessive-compulsive disorder (OCD) by exposure and ritual prevention exceeds its supply by trained therapists. A computer-guided behavior therapy self-help system (BT STEPS) was created that patients access by telephone from home via interactive voice response technology. This study compared the value of computer-guided behavior therapy value with that of clinician-guided behavior therapy and systematic relaxation as a control treatment.

**Method:** After screening by a clinician, 218 patients with DSM-IV OCD at 8 North American sites were randomly assigned to 10 weeks of behavior therapy treatment guided by (1) a computer accessed by telephone and a user workbook (N = 74) or (2) a behavior therapist (N = 69) or (3) systematic relaxation guided by an audiotape and manual (N = 75).

**Results:** By week 10, in an intent-to-treat analysis, mean change in score on the Yale-Brown Obsessive Compulsive Scale was significantly greater in clinician-guided behavior therapy (8.0) than in computer-guided (5.6), and changes in scores with both clinician-guided and computer-guided behavior therapy were significantly greater than with relaxation (1.7), which was ineffective. Similarly, the percentage of responders on the Clinical Global Impressions scale was significantly ( $p < .05$ ) greater with clinician-guided (60%) than computer-guided behavior therapy (38%), and both were significantly greater than with relaxation (14%). Clinician-guided was superior to computer-guided behavior therapy overall, but not when patients completed at least 1 self-exposure session (N = 36 [65%]). At endpoint, patients were more satisfied with either behavior therapy group than with relaxation. Patients assigned to computer-guided behavior therapy improved more the longer they spent telephoning the computer (mostly outside usual office hours) and doing self-exposure. They improved slightly further by week 26 follow-up, unlike the other 2 groups.

**Conclusion:** For OCD, computer-guided behavior therapy was effective, although clinician-guided behavior therapy was even more effective. Systematic relaxation was ineffective. Computer-guided behavior therapy can be a helpful first step in treating patients with OCD when clinician-guided behavior therapy is unavailable.

(*J Clin Psychiatry* 2002;63:138-145)

Received Jan. 26, 2001; accepted Sept. 6, 2001. From Healthcare Technology Systems (HTS), (Drs. Greist and Kobak and Mr. Wenzel and Ms. Hirsch and Mantle) and the University of Wisconsin, Madison (Dr. Greist), Madison Wis.; the Institute of Psychiatry, Maudsley Hospital, London, England (Dr. Marks); the Department of Psychiatry, Massachusetts General Hospital, Boston (Dr. Baer); and Pfizer, Inc., New York, N.Y. (Dr. Clary).

Supported in part by a grant from Pfizer, Inc.

Drs. Greist and Kobak and Mr. Wenzel and Ms. Hirsch are employees of HTS, Madison, Wis. Ms. Mantle was employed at HTS during this study and is currently self-employed in Boise, Idaho. Mr. Wenzel and Ms. Hirsch own stock in HTS. Drs. Marks and Baer receive royalties from BT STEPS. BT STEPS is a trademark of Healthcare Technology Systems. Dr. Clary is an employee of Pfizer, Inc.

Corresponding author and reprints: John H. Greist, M.D., Healthcare Technology Systems, 7617 Mineral Point Rd., Suite 300, Madison, WI 53717 (e-mail: greij@healthtechsys.com).

Obsessive-compulsive disorder (OCD) is a common psychiatric disorder,<sup>1</sup> and chronic disability<sup>2</sup> from it incurs high costs for patients, their families, and communities.<sup>3</sup> Patients with OCD who received serotonin reuptake inhibitors (SRIs) improved in multicenter placebo-controlled trials.<sup>4,5</sup> Behavior therapy by exposure plus ritual prevention (henceforth called *exposure*) was also effective in the short and long term,<sup>6</sup> at least as much as SRIs in direct comparisons<sup>7-9</sup> and in meta-analyses.<sup>10-13</sup> During behavior therapy, patients with OCD expose themselves to whatever evokes obsessions and rituals, and then refrain from carrying out rituals to allow the ensuing discomfort to habituate over time.<sup>14</sup>

To make behavior therapy by self-exposure more widely available, we developed a computer-guided self-help behavior therapy system (BT STEPS) for patients with OCD and compared it with behavior therapy guided by clinicians and with systematic relaxation as a control.

## METHOD

### Subjects

Two hundred eighteen subjects with a primary diagnosis of OCD for at least 2 years on the Structured Clinical Interview for DSM-IV (SCID)<sup>15</sup> were randomly assigned