

Case Report

Implementing Internet-Based Cognitive Behavioral Therapy for Obsessive Compulsive Disorder: A Case Report

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Abstract

Objective: Cognitive-behavioral therapy (CBT) incorporating exposure and ritual prevention (EX/RP) is an efficacious treatment for obsessive-compulsive disorder (OCD) (citation). This case study outlines treatment of a 30-year-old female diagnosed with OCD and no psychiatric comorbidities using an internet-based CBT intervention (I-CBT) and therapist phone support.

Methods: Treatment involved completing CBT homework assignments on an internet platform, platform messaging with an assigned therapist, conducting patient-guided exposures with response prevention, and phone support for treatment planning and implementation. Patient evaluations were conducted prior to week one of treatment and during week 13, following termination of therapist contact. Additionally, weekly self-report forms were administered to monitor patient symptoms. The primary outcome measure for OCD symptoms was the Yale-Brown Obsessive Compulsive Scale (YBOCS) severity score.

Results: Mrs. X's YBOCS severity score decreased from a 25 (severe) pre-treatment to a 12 (mild) post-treatment. Additionally, Her Hamilton Depression Scale (HAM-D17) score remained in the range of no depression symptoms and her Obsessive Compulsive Inventory-Revised severity score decreased from 23 (above cutoff of 21 for clinical impairment) to 10.

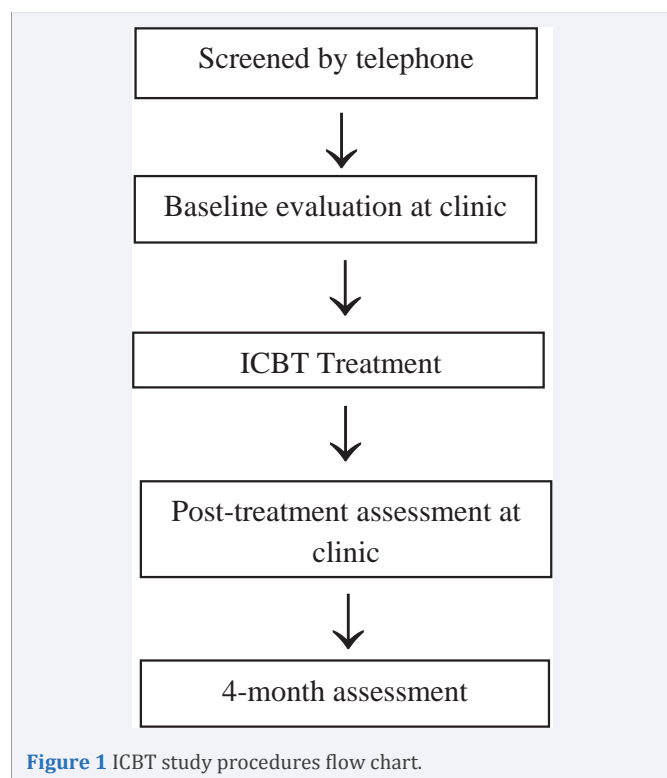
Conclusion: Over the course of a 13-week I-CBT intervention, patient OCD symptoms reduced significantly. This case illustrates the utility of an internet-based CBT intervention for OCD and factors that contribute to its efficacy.

INTRODUCTION

Obsessive compulsive disorder (OCD) is one of the leading causes of health-related disability in the world [1] associated with a diminished quality of life, social isolation [2] and a high economic burden to society [3]. OCD is a chronic illness marked by the presence of persistent and distressing thoughts, images or impulses termed obsessions and repetitive and ritualized behaviors referred to as compulsions. Cognitive-behavioral therapy (CBT) consisting of exposure and ritual prevention (EX/RP) is one of the most efficacious OCD treatments [2], patients prefer EX/RP over SRI medications alone [3], yet few patients receive this treatment in clinical practice [4-6]. Uncertainty about where to seek treatment, lack of trained therapists [3,7,8] shame,

stigma, and costs associated with seeking mental health care are documented barriers to care [7].

Efforts to improve access to CBT for OCD include self-help [9-16] with some of the most promising results demonstrated for internet-based treatment delivery formats used largely outside of the United States [17-19], with superior results for therapist-supported program formats [20,21]. Among these, Internet-based CBT (I-CBT) for OCD, developed at the Karolinska Institutet in Sweden [22], is a 10-week therapist-supported EX/RP-based treatment that has demonstrated superior efficacy to other programs aimed to improve access to CBT for OCD. In I-CBT for OCD, a patient logs onto a website and works with written self-help material and homework assignments; the



patient's work is supported by contact with a therapist online via email or messaging systems. When I-CBT was compared to an active control condition in a randomized controlled trial, I-CBT achieved large effect sizes and a significantly higher percent of people receiving I-CBT responded to treatment (60% versus 6%); this response rate is similar to that seen in face-to-face CBT but in one-fourth the therapist time to treat in standard face-to-face CBT [19].

While I-CBT is a clear advance for computerized self-help programs for OCD; there are no data available on the implementation and effectiveness of the I-CBT for OCD program outside of Sweden in diverse OCD patient populations and settings. Partnered with the Karolinska Institutet in Sweden, we translated and adapted this ICBT program for use in the United States. This report will describe the case of a patient who participated in the ICBT for OCD treatment program.

Client Characteristics and Treatment History

Mrs. X is a 30-year-old Asian-American female who lives with her husband and is currently unemployed. Her highest level of education is a Master's of Social Work. However last year, at the age of 29, Mrs. X's husband was diagnosed with lymphoma, and she quit her job as a clinical social worker to care for him. Her symptoms got progressively worse and she sought treatment at our center after coming across information about the study on the internet. Mrs. X has a history of OCD dating back to the age of 17, reporting an unknown history of psychiatric disorders in her family during the evaluation phase, however had never sought treatment or received a diagnosis prior to the I-CBT program due to stigma-related concerns about seeking treatment for OCD.

Mrs. X endorsed a number of rituals primarily related to

contamination fears, including washing her hands and arms up to her elbows, cleaning household items she perceived to be dirty and avoiding tasks that involved contaminated items. She reported feeling distressed about germs in her home, and expressed that her rituals and avoidance were interfering with the quality of her relationship with her husband. Mrs. X's husband being diagnosed with cancer increased Mrs. X's environmental stressors and led to more frequent and elaborate compulsions around his health and safety. She regularly asked her husband to perform certain steps to "decontaminate" upon entering the apartment.

Mrs. X conducted checking routines involving door and window locks in the apartment, as well as her stove. She stated that these behaviors were either directly (robber breaking into apartment and contaminating it) or indirectly (magical thinking about checking the stove and counting) related to contamination fears. She reported avoiding hosting friends over her apartment and performing elaborate rituals while getting the pipes in her bathroom fixed by a plumber due to contamination fears. In addition to the pervasive contamination fears Mrs. X described compulsively rereading phone texts, emails, and job applications multiple times. These behaviors were performed in order to make sure her text was grammatically intact and accurately conveyed her intended message.

Assessment Procedures

Mrs. X was evaluated by a PhD-level clinician to determine eligibility for the I-CBT treatment program. She was administered a Structured Clinical Interview for DSM-5 [23] and received a diagnosis of OCD with no psychiatric co morbid illness. Given her eligibility, she began the I-CBT program and participated in three assessments with an independent evaluator (PhD-level clinician) at baseline, post-treatment, (10 weeks) and four months following post-treatment. Independent evaluations consisted of the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) to assess OCD severity. The Y-BOCS is a semi-structured measure of OCD symptom severity in which clinician ratings range from 0-40 (> reflects clinically significant OCD) [24]. Additionally, she was administered the Hamilton Depression Scale (HAM-D-17 item) [25] for depression severity, and the Quality of Life Satisfaction Questionnaire (Q-LES-Q, short form) [26] -a short self-rating scale to assess degree of enjoyment and satisfaction. Additionally, Mrs. X completed the Client Satisfaction Questionnaire (CSQ) [27] at post-treatment to assess her satisfaction with the I-CBT intervention.

During treatment, Mrs. X also provided self-ratings of OCD severity and mood symptoms for the purpose of monitoring clinical progress using the OCI-R (Obsessive Compulsive Inventory- Revised) [24] and the Quick Inventory of Depressive Symptoms (QIDS-SR) [28,29]. The OCI-R includes 18 items measuring the distress associated with obsessions and compulsions, and the 6 items of the QIDS-SR assess the severity of depressive symptoms. These ratings were built into the I-CBT platform and when logging into the treatment Mrs. X was prompted to complete them prior to moving from one module to another during treatment.

Treatment

I-CBT incorporates the established CBT techniques of psycho education through self-monitoring, cognitive restructuring, exposure with response prevention (EX/RP), and a relapse prevention program. Information in the Internet treatment platform is provided in text and divided into 10 modules. Worksheets accompany modules to apply concepts, gather patient information related to symptoms, and monitor EX/RP exercises. Modules 1-4 involve psycho education, cognitive restructuring of meta-cognitions, and individual EX/RP hierarchy formation. Modules 5-10 consist of daily in-vivo EX/RP exercises and monitoring of subjective units of distress (SUDS) levels. Weekly self-rating questionnaires and therapist messaging are also incorporated into the I-CBT platform.

During treatment Mrs. X was supported by a Master's-level clinical psychologist, who had weekly and on-demand supervision from a senior EX/RP trained clinician. Therapist support was provided in the forms of platform email messaging and scheduled phone calls as needed. On weekdays, entries into the I-CBT platform by Mrs. X were answered within 24 hours. The therapist working with Mrs. X gave her feedback on homework assignments, granted access to modules based on clinical judgment, monitored progress, and answered questions.

During modules 1-4, Mrs. X was very motivated to learn about EX/RP and responsive to therapist prompts and feedback regarding recording information about her OCD symptoms. Throughout treatment, Mrs. X quickly understood concepts, was detail-oriented in her self-monitoring assignments (i.e. OCD diary, goal worksheet). Her consistency with recording her SUDS levels allowed her therapist to inquire at key times and make suggestions to tailor and conduct EX/RP exercises. Mrs. X's reporting in worksheets and emails served as triggers for her compulsions of re-reading and re-writing. These exercises were added to her exposure hierarchy and Mrs. X's therapist coached her to gradually respond to platform questions concisely and not check her communication for accuracy of her language, grammar, and punctuation.

One area targeted throughout treatment was Mrs. X's checking rituals when going to bed or leaving her apartment, which was related to a need for certainty that her windows and doors were locked and that her stove was off. During modules one through four, Mrs. X was coached in collecting data on her obsessions and compulsions in this area, including time of day and frequency of rituals. With guidance from her therapist, she created EX/RP exercises and practiced them reaching out to her therapist immediately after her first EX/RP practice to receive feedback and coaching via the I-CBT platform. During the first week of practicing these EX/RP exercises, Mrs. X tended to procrastinate and stated that she felt she didn't have enough time to do them. Her therapist utilized phone support to assist her in scheduling concrete times to conduct EX/RP. Through self-guided EX/RP practice, platform messaging, and phone call support, Mrs. X was able to consistently limit her pre-bedtime and morning rituals from checking her windows, locks, and stove multiple times while counting to herself to once per night. During phone calls Mrs. X was asked to be at her computer and to have her platform open so that she could refer to her hierarchy, SUDS levels, and

worksheets, and modify her hierarchy as EX/RP exercises were increased in difficulty.

Towards the end of treatment, Mrs. X began generating her exposures on her own with less guidance from the therapist and applying skills to unplanned OCD provoking situations. For example, Mrs. X's final planned exposure at the end of module 10 was to host a dinner party for multiple friends in her apartment. At post-treatment, Mrs. X reported confidence to her ability to conduct the exposure stating, "at this point I'm more worried about typical party concerns, like having enough food and drinks, than things getting dirty."

Adaptations for Implementing I-CBT

This case report marked the development of a protocol for delivering I-CBT. While a majority of the correspondence between therapist and patient in this treatment was exchanged in the treatment platform, weekly phone calls were added when the patient began EX/RP (modules 5-10) for support and discussion of her practice. In total, Mrs. X sent 35 platform messages to her therapist. Her therapist sent 23 messages and held six phone calls with her during treatment. Second, this patient was asked to have her I-CBT platform open and available during these phone calls to facilitate synchronous communication once a week about the treatment material. Mrs. X navigated the ICBT platform easily, learned CBT concepts quickly through her use of the internet platform materials, and was motivated to conduct EX/RP exercises independently. Generally, patients' motivation to participate in treatment and technological capabilities should be considered in using this approach. Therapist phone calls were useful in answering patient questions that required a number of back-and-forth comments to problem-solve barriers to treatment. One such example with Mrs. X involved deciding which exposures were reasonable and targeted her anxiety, and which ones were unnecessary or too risky. These phone calls were particularly helpful when Mrs. X demonstrated low insight about the realistic consequences of an exposure behavior. E.g. Patient stating that if she doesn't wash her hands a certain number of times while preparing dinner she will likely get sick, when this is a low risk situation.

RESULTS

Independent evaluation

At baseline, Mrs. X's YBOCS severity score was a 25 representing severe OCD symptoms. She was spending 1-3 hours per day on obsessions and 1-3 hours per day on compulsions, (a rating of moderate on the YBOCS). Her YBOCS severity score at post-treatment was a 12, indicating only mild symptoms overall and her time on obsessions and compulsions was less than 1 hour per day, also considered mild. Although she did not report clinically significant symptoms of depression she reported a decrease in her HAM-D 17 score from a 4 at baseline to a 1 at post-treatment. Her Q-LES-Q scores improved 13 points from 56 (baseline) to 69 (post-treatment). Some domains of life satisfaction that Mrs. X reported improvement in were household activities, sexual drive, interest in pleasurable activities and overall sense of wellbeing. At her post-treatment evaluation, Mrs. X scored 23 out of 32 on the CSQ, with higher scores representing greater satisfaction. Her responses indicate that she was mostly

satisfied with the services provided in the I-CBT intervention and the amount of help she received.

Self-report ratings

Mrs. X's OCD severity, as measured by the OCI-R, decreased from 23 to 10 and her depressive symptoms, as indicated by the QIDS-SR, decreased from 4 to 2 from baseline to post-treatment.

DISCUSSION

In this patient, the I-CBT program was effective in producing a clinically significant reduction in her OCD symptoms, an important finding given that she reported shame and stigma around seeking treatment in the past. A 13-point reduction in the YBOCS represents a clinically meaningful and reliable change, as defined by a 6-point or greater reduction in the YBOCS, in the context of randomized controlled treatment trials for OCD [30]. The patient reported satisfaction with treatment and with the adaptation of phone support through the EX/RP phase of I-CBT, this treatment was feasible to deliver.

The results of this case report should be addressed with caution and seen as a platform for further inquiry into the value of delivering EX/RP through the Internet. There were several limitations in the present case report. First, we are limited in this report with a sample size of 1. Second, the independent evaluator who assessed outcome for this case was not blind to treatment condition.

The I-CBT program has established efficacy and was implemented in a different healthcare context. This case report represents an OCD patient who never sought treatment and found this treatment delivery approach acceptable with reported clinical benefit. Findings suggest that an internet-based treatment for OCD may have potential as a stand-alone treatment for certain OCD patients or as a strategy for enhancing established treatments such as SRIs. Future directions that warrant attention include further development and manualization of delivering I-CBT treatment, piloting the treatment in different types of OCD (e.g., physical compulsions, hoarding), and conducting a pilot study to further evaluate the acceptability and feasibility of I-CBT for OCD.

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