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The Efficacy of Self-Administered Danger Ideation Reduction Therapy for a 50-year Old Woman with a 20 Year History of Obsessive-Compulsive Disorder: A Case Study

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***Abstract*—**Obsessive-Compulsive Disorder (OCD) is a common and disabling condition. Therapist-delivered treatments that use exposure and response prevention have been found to be very effective in treating OCD, although they are costly and associated with high rates of attrition. Effective treatments that can be made widely available without the need for therapist contact are urgently needed. This case study represents the first published investigation of a self-administered cognitive treatment for OCD in a 50-year old female with a 20 year history of OCD. The treatment evaluation occurred over 27 weeks, including 12 weeks of self-administration of the Danger Ideation Reduction Therapy (DIRT) program. Decreases of between 23% to 33% on measures from pre-treatment to follow-up were observed. Bearing in mind the methodological limitations associated with a case study, we conclude that the results reported here are encouraging and indicate that further research effort evaluating the effectiveness of self-administered DIRT is warranted.

***Keywords*—**Anxiety Treatment, Cognitive Therapy, Danger Ideation Reduction Therapy, Obsessive–Compulsive Disorder, Self-Administered Danger Ideation Reduction Therapy.

I. Introduction

OBSESSIVE-COMPULSIVE DISORDER (OCD) is a common psychiatric condition with a 12 month prevalence rate of 1.9% in the general population [1]. OCD is associated with high levels of dependency on mental health services and comorbidity [2] and research investigating the burden of disease and injury for OCD has identified high rates of years lost to disability [3]. The essential features of OCD are recurrent obsessions and compulsions [4]. Obsessive thoughts about contamination and illness, accompanied with compulsive washing, are one of the most common OCD symptom profiles [5], [6].

Therapist delivered cognitive behaviour therapy (CBT), particularly those that rely heavily on behavioural interventions such as exposure with response prevention (ERP), have been shown to be effective for both children [7] and adults [8]. However, the anxiety-provoking nature of ERP can lead to high rates of treatment refusal or dropout [9, 10]. It has been proposed that psychological interventions that do not involve exposure, such as cognitive therapies, have the potential to be better tolerated and may therefore be associated with greater treatment efficacy [11]. Danger Ideation Reduction Therapy (DIRT) is a cognitive therapy for OCD originally developed in the mid-1990s for OCD washing subtype [12] and a manual to support therapists delivering DIRT has recently been published [13]. Evaluations of therapist-delivered DIRT (TD-DIRT) have consistently shown significant reductions in OCD washing symptoms [14]-[22]. Recently DIRT has also been modified for OCD checking subtype [23] and has been found to be effective in an initial trial of three people with clinical OCD checking [24].

While the results from these studies using TD-DIRT have offered new hope for the treatment of OCD, access to effective, specialized psychological interventions for this serious and debilitating condition remains a challenge. Unfortunately, there are insufficient numbers of suitably trained professionals to cope with the high demand for OCD treatment within the community, particularly in rural and remote [25]. This means that only a small percentage of people with OCD ever receive professional treatment [26]. The DIRT program was thus published as a comprehensive manual for therapists with the intention of expanding the skill-base of therapists without the need for expensive in-service training [13].

An additional hindrance to treatment access is that many people with OCD are embarrassed about discussing their symptoms [27]. Thus, even where services are available, people with OCD may be reluctant to seek help due to concern about stigma or embarrassment of revealing their symptoms to a therapist. This may be particularly a problem in small communities. The high cost of treatment that may involve up to 20 face-to-face sessions of one hour each, and of travel to specialist clinics where treatment is available, further contributes to non-uptake of treatment. Apart from cost and access, people with severe OCD may be incapacitated by their symptoms and unable to leave their homes to travel to clinics, so that those most in need may find accessing treatment the most difficult [28]. Clearly there are significant barriers to

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accessing treatment for those with OCD. If we are to reduce the burden of OCD, effective treatments that can be widely delivered without the need for face-to-face therapy are urgently needed.

A number of self-administered interventions for OCD, including self-help books [29] and automated computerised programs [30] have been developed. These have important advantages, as they significantly reduce costs to both the individual and the health system and can be accessed by people who may not be able to afford, or who may not have access, to therapist-delivered treatments [31]. They also make specialised treatment more quickly available to a larger percentage of the population across a broader geographical area, including rural and remote areas. Treatment can be accessed without revealing the nature of problems to a health professional and with the convenience of not having to leave the house. Additionally, self-management approaches engender client autonomy and empowerment and enable people to take an active role in the management of their condition [32]. Thus they respond to people's desire for a greater role in the management of their own health [33].

Unfortunately, whilst self-help interventions for OCD clearly offer hope, there are several significant drawbacks associated with their use. First, the commercialization and dissemination of unevaluated self-help materials has prompted concerns [34], since without evaluation it is not possible to know whether these interventions are effective or not. Second, available OCD self-help treatments are based primarily on the principles of ERP [35], [36]. Preliminary research suggests that self-help versions of ERP are beset by the same problems as therapist-delivered ERP, particularly attrition due to the distress of confronting the anxiety provoking stimuli during exposure therapy [35]-[37]. To successfully reduce the impact of OCD in the community, we argue that self-administered treatments that are both tolerable and effective must be developed. While there is recent evidence of effectiveness for internet delivered OCD programs that combine ERP and cognitive techniques including DIRT components [38], to our knowledge no reports have examined the efficacy of a self-administered cognitive protocol for treating OCD.

Given the potential benefits of self-delivered cognitive treatments for OCD and the absence of existing programs, the present paper makes an important contribution to the literature in this area by presenting a case study exploring the efficacy of a new 12 week self-administered cognitive treatment program for OCD washing with a woman who has a 20 year history of OCD. It was expected that the participant would show improvements in symptoms of OCD from pre-treatment to post-treatment, and that these gains would be maintained at follow-up. We believe this is the first reported case study of a trial of a self-help cognitive treatment for OCD.

II. METHOD

A. Design

The present study employed a case study design comparing outcome measures taken pre-treatment, immediately post-treatment, and again at follow-up 12 weeks later.

B. Participant

Rita (not her real name) was a 50-year old unemployed female with a 20 year history of OCD who was married with two children. She presented with a number of OCD concerns including obsessions about dirt and germs, bodily waste, particularly faeces, and concerns about exposure to contaminants making her or others ill. Her main compulsions were excessive, time consuming washing of her hands and body and of the clothing of herself and family members. She had no history of pharmacological OCD treatment but had previously undertaken CBT for OCD. She had not received any treatment for OCD within six months prior to commencing the SA-DIRT trial. Rita was recruited when she contacted the University of Sydney Anxiety Clinic seeking treatment for OCD. The trial was approved by the University of Sydney Human Research Ethics Committee and there was no charge for the treatment to the participant.

C. Materials

1) Pre-Treatment

a) Composite International Diagnostic Inventory 2.1 (CIDI v2.1) [39] Anxiety Disorders Module

This was administered to confirm that Rita met DSM-IV-TR [4] diagnostic criteria for OCD.

b) Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) [40], [41]

The Y-BOCS is a comprehensive therapist delivered measure of severity of OCD symptoms independent of the number and type of obsessions and compulsions present and is considered the gold standard of OCD assessment. Total scores range from 0-40 and higher scores reflect greater impairment. The Y-BOCS has been used extensively in OCD research as an indicator of clinically significant change.

c) Vancouver Obsessional Compulsive Inventory (VOCI) [42]

The VOCI is a 55-item self-report measure designed to assess a broad range of OCD symptoms. The VOCI possesses good inter-item reliability in student, community, OCD, and clinical control populations (Cronbach's α = .96, .90, .94, and .98 respectively). Test-retest reliability for the VOCI total score is high in clinical populations (Pearson's $r = .96$, $p < 0.001$) [42], as well as in student samples (Pearson's $r = .91$, $p < 0.001$) [43].

d) Beck Depression Inventory - 2nd Edition (BDI-II) [44]

The BDI-II is a 21-item self-report scale yielding possible scores from 0 to 63. It has demonstrated excellent internal consistency in samples of psychiatric outpatients (.92) [45] and is one of the most widely used measures of depression.

2) Post-Treatment and Follow-up

The Y-BOCS, VOCI and BDI-II were repeated. The Y-

BOCS was administered in the clinic at pre-treatment and post-treatment and by phone at 3-month follow-up by the first author, who is a psychologist with over 15 years of experience working with clients with OCD.

3) During Treatment

a) Danger Ideation Reduction Therapy (DIRT) for Obsessive-Compulsive Washing: A Self-Help Guide to Treatment (SA-DIRT) [46]

SA-DIRT was adapted from the therapist-delivered DIRT treatment package [13] for use in self-administered mode. SA-DIRT is a comprehensive 224 page self-help manual divided into nine chapters as follows:

- Chapters 1 and 2: Introduction, background and treatment rationale
- Chapter 3: Attentional Focusing
- Chapter 4: Cognitive Restructuring
- Chapter 5: Corrective Information
- Chapter 6: Microbiological Experiment
- Chapter 7: Occupational Interviews
- Chapter 8: Probability of Catastrophe
- Chapter 9: Relapse prevention

Chapters 3 to 8 present the six key components of the DIRT approach to treating OCD (for details see St Clare et al., [13]). Each chapter is accompanied by extensive support material and worksheets. The authors of the package are psychologists with expertise in OCD assessment and treatment and the materials were carefully reviewed to ensure that the content of the SA-DIRT package was consistent with the therapist-delivered DIRT. The materials were also examined for readability and presentation by a mental health nurse, an allied health worker, and three people with OCD washing and revised in light of this feedback.

SA-DIRT was designed to be delivered over 12 weeks (see schedule below). The materials were mailed out and returned at specified intervals so that the rate, timing and order of access to materials were controlled. Apart from sending materials and a weekly telephone call to establish that the participant was continuing with the program and to assess any difficulties with using the package (e.g., DVD's were playing correctly) there was no other therapist contact during the 12 weeks. Rita received a detailed timeline and instructions outlining the expected activities to be performed by her (e.g., working through specific chapters; completing and mailing questionnaires) and by clinic staff (e.g., phone to check on materials; mail materials) across the duration of the treatment trial, a total of 27 weeks from pre-treatment assessment to follow-up.

b) Expectancy of Change Questionnaire (ECQ) [47]

After working on Chapters 1 and 2 (Introduction, background and treatment rationale) participants completed the ECQ, a 5-item expectancy for improvement scale, once only.

c) Homework Rating Scale (HRS) [48]

The HRS is a 12 item scale that assesses an individual's experiences when completing a learning task. The HRS includes questions about quantity, quality, difficulty, obstacles, comprehension, rationale, collaboration, specificity, match with therapy goals, pleasure, mastery and progress. The HRS was completed six times, after the participant had completed Chapters 3, 4, 5 and 6, 7, 8, and 9.

d) Materials Feedback Questionnaire (MFQ)

The MFQ comprised five open-ended questions about the SA-DIRT package. The questions asked about the easiest and hardest aspects of the content, usefulness of DVD's, difficulty with completing homework and general comments. The MFQ was developed for the current study by the authors and was completed six times, after the participant had completed Chapters 3, 4, 5 and 6, 7, 8, and 9.

D. Procedure

The schedule was as follows.

Week 1. Information sheet, consent form, VOCI and BDI-II mailed to participant to be completed and returned at the pre-treatment interview.

Week 2. Completed consent form, VOCI and BDI-II received and pre-Treatment Y-BOCS assessment interview conducted at the University of Sydney Anxiety Disorders Clinic. Participant receives treatment folder containing (a) chapters 1, 2 and 3 of the DIRT Self-Help Treatment Manual (b) ECQ; (c) reply paid envelope.

Week 3. Participant begins working through chapters 1, 2 and 3, completes and mails the ECQ and receives a phone call to check whether there were difficulties with the materials.

Week 4. Participant completes chapters 1, 2 and 3, receives chapter 4 and HRS / MFQ, returns completed HRS / MFQ and receives a phone call to check whether there were difficulties with the materials.

Week 5. Participant begins working through chapter 4 and receives a phone call to check whether there were difficulties with the materials.

Week 6. Participant completes chapter 4, receives chapters 5 and 6 along with HRS / MFQ, returns completed HRS / MFQ and receives a phone call to check whether there were difficulties with the materials.

Week 7. Participant begins working through chapters 5 and 6 and receives a phone call to check whether there were difficulties with the materials.

Week 8. Participant completes chapters 5 and 6, receives chapter 7, a DVD with Occupational Interviews, and HRS / MFQ, returns completed HRS / MFQ and receives a phone call to check whether there were difficulties with the materials.

Week 9. Participant begins working through chapter 7 and receives a phone call to check whether there were difficulties with the materials.

Week 10. Participant completes chapter 7, receives chapter 8 and HRS / MFQ, returns completed HRS / MFQ and

receives a phone call to check whether there were difficulties with the materials.

Week 11. Participant begins working through chapter 8 and receives a phone call to check whether there were difficulties with the materials.

Week 12. Participant completes chapter 8, receives chapter 9 and HRS / MFQ, returns completed HRS / MFQ and receives a phone call to check whether there were difficulties with the materials.

Week 13. Participant begins working through chapter 9 and receives a phone call to check whether there were difficulties with the materials.

Week 14. Participant completes chapter 9, receives HRS / MFQ, VOCI and BDI-II to be completed and returned at post-treatment interview and receives a phone call to check whether there were difficulties with the materials and schedule post-treatment assessment interview.

Week 15. Participant attends post-treatment interview at the University of Sydney Anxiety Disorders Clinic bringing completed final HRS / MFQ, VOCI and BDI-II and post-Treatment Y-BOCS assessment interview is conducted.

Week 16-Week 25. Participant is advised to continue to use strategies and Self-Help Guide as necessary.

Week 26. VOCI and BDI-II mailed to participant to be completed and returned by mail. Follow-up Y-BOCS telephone interview arranged.

Week 27. Final Y-BOCS telephone interview conducted.

III. Results

A. ECQ

The expectancy of change and credibility rating was 92%.

B. HRS / MFQ

Responses on the HRS and MFQ confirmed that Rita experienced no significant difficulty with any component of the package and was able to complete all components during the trial within the prescribed timeline.

C. Y-BOCS

Y-BOCS scores reduced by 33% across the 26 weeks between pre-treatment assessment (week 2; rating = 27: severe) and follow-up (week 27; rating = 18: moderate). Immediately post-treatment the Y-BOCS score was 19.

D. VOCI

VOCI scores reduced by 23% across the 26 weeks between pre-treatment assessment (week 2; score = 65) and follow-up (week 27; score = 50). Immediately post-treatment the VOCI score was 47.

E. BDI-II

BDI-II scores reduced by 27% across the 26 weeks between pre-treatment assessment (week 2; score = 15) and follow-up (week 27; score = 11). Immediately post-treatment the BDI-II score was 9.

IV. Discussion

Delivery of effective treatments to those with severe OCD is limited by factors such as cost of treatment, lack of availability of trained therapists, embarrassment of symptoms, and travel limitations associated with OCD symptoms. This study therefore aimed to explore the effectiveness of a self-administered cognitive therapy for OCD known to be useful when delivered by therapists. The paper presents the first published evaluation of a self-administered cognitive therapy for OCD. It documents the treatment of a 50-year old woman with a 20 year history of OCD. Across 26 weeks, Rita's scores across several measures had consistently decreased, by 23% to 33%. Importantly, at follow-up assessment Rita no longer met Y-BOCS criteria for severe OCD. Additionally, Rita found the treatment acceptable and was able to complete all components.

These results are encouraging and suggest that SA-DIRT has the potential to be both an acceptable and effective treatment for OCD washing that requires little therapist involvement, and that more research in this area is warranted. SA-DIRT does not require people with OCD to undertake exposure-based exercises known to be highly aversive, as they require clients to experience high levels of anxiety, and are associated with high rates of attrition. SA-DIRT also has significant advantages in regard to accessibility and affordability. This is particularly important given the numbers of people experiencing distress and disability due to OCD symptoms within the [1] and the barriers to accessible treatment that currently exist [28]. Effective home-based treatments have the potential to dramatically reduce the social and economic burden caused by OCD, particularly in areas where standard treatment is unavailable, such as in rural and remote communities.

A number of limitations of the current study must be considered. While reductions in clinician and self-report measures of OCD were found, Rita was left with moderate OCD symptomatology. Her Y-BOCS score decreased 9 points from 27 before treatment to 18 at follow-up assessment. This decrease does not meet the two-fold criteria of Fisher and Wells [49] for clinically significant change that requires a 10 point or greater reduction on the Y-BOCS to < 14. Additionally, symptom reduction in the current study was between 23% and 33%. This did not meet the criterion for clinically significant improvement employed by the Clomipramine Collaborative Study Group [50] that requires a minimum of 35% symptom reduction. While we note that the Clomipramine Collaborative Study Group researchers [50] found that 45% of their 520 patients did not meet this criteria either, the issue remains that Rita did not achieve clinically significant symptom reduction.

The first author was one of the developers of SA-DIRT and was aware of the hypotheses of the present study, so there is a potential for bias, as this author conducted the Y-BOCS assessments. To reduce the possibility of bias, this author did not score the Y-BOCS or any of the self-report measures

completed by Rita, and the patterns of findings on the Y-BOCS, the VOCI and the BDI-II were consistent. To make claims for treatment efficacy based on an uncontrolled study with a single individual may be premature. We recognize the limitations of this non-experimental case study design, particularly the absence of any control for threats to internal validity, such as events that may have occurred during the course of the trial to which changes in OCD symptomatology should be attributed (history) and maturational effects. However, it should be remembered that Rita entered the trial with OCD of long duration, so that sudden reductions in symptom severity coincidental with the delivery of SA-DIRT due to factors other than the treatment are unlikely. In conclusion, these findings are an important first step in expanding the opportunities for those with OCD to gain access to an effective, acceptable treatment but replication with other individuals is clearly needed.

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